5.3 TRAFFIC AND CIRCULATION

The purpose of this section is to evaluate the impacts of the proposed project on the local traffic system in the project vicinity. This analysis summarizes the findings of a Traffic Impact Study prepared for the proposed project by Meyer Mohaddes Associates, Inc. (MMA), dated June 2006. The traffic report is presented as a technical analysis in its subject and language; thus, this section presents a summary intended for the non-technical reader. For a detailed discussion of assumptions, calculations and conclusions utilized in the traffic analysis, refer to the Traffic Impact Study, included in its entirety in Appendix 15.3, *Traffic Impact Study*.

5.3.1 METHODOLOGY AND PERFORMANCE CRITERIA

STUDY AREA

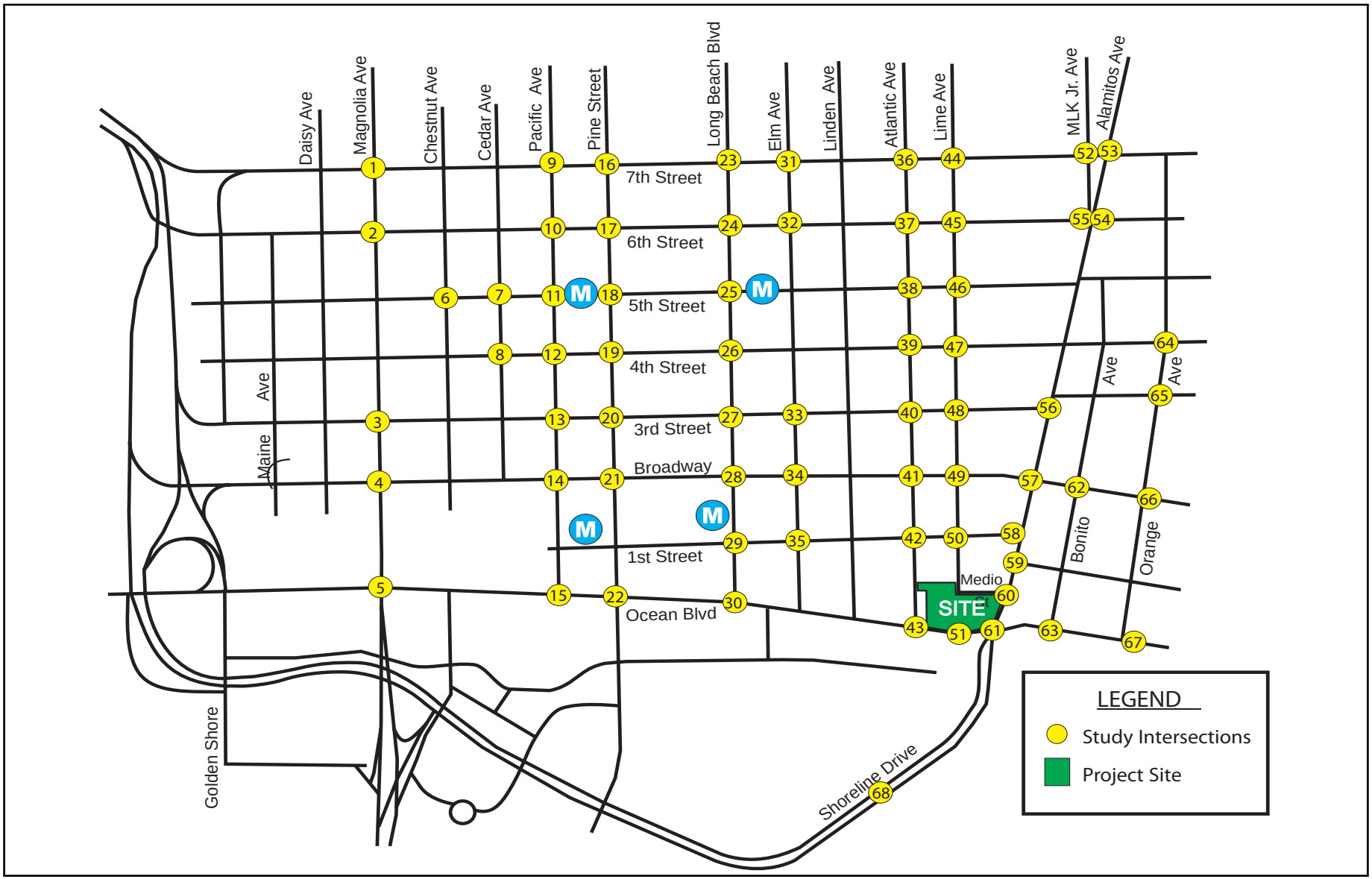
The study area includes the roadways and intersections near the project site and those locations where project-generated traffic could cause a significant impact. Exhibit 5.3-1, *Study Area Intersections*, illustrates the 68 intersections selected for study through consultations with City staff. These are intersections deemed most likely to experience potentially significant impacts from the proposed project and therefore warranted detailed analysis. Of the 68 study intersections, 13 are currently controlled by stop signs.

One of the existing intersections will be modified in the future as part of a City public works project. The intersection of Long Beach Boulevard and 5th Street is to be modified to allow full east and westbound movement. An existing pedestrian traffic signal located mid-block between 5th and 6th Streets will be moved to this intersection. Currently, the east and west approaches have only right-turn in/out movements.

METHODOLOGY

Consistent with City of Long Beach guidelines for traffic impact analyses, traffic conditions in the vicinity of the project were analyzed using intersection capacity-based methodology known as the Intersection Capacity Utilization Methodology (ICU Methodology).

The efficiency of traffic operations at a location is measured in terms of Level of Service (LOS). LOS is a description of traffic performance at intersections. The LOS concept is a measure of average operating conditions at intersections during an hour. It is based on volume-to-capacity (V/C) ratio. Levels range from A to F with A representing excellent (free-flow) conditions and F representing extreme congestion. The ICU methodology compares the level of traffic during the peak hours at an intersection (volume) to the amount of traffic that intersection is able to carry (capacity). Intersections with vehicular volumes that are at or near capacity (V/C $\cong$ 1.0) experience greater congestion and longer vehicle delays. Table 5.3-1, *Level of Service Definitions for Signalized Intersections*, describes the LOS concept and the operating conditions expected under each LOS for signalized intersections.



Source: Meyer, Mohaddes Associates, Inc., April 2006.

Not to Scale

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Exhibit 5.3-1

SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Study Area Intersections

Table 5.3-1
Level of Service Definitions for Signalized Intersections

LOS	Interpretation	Volume to Capacity Ratio (V/C)
A	Excellent operation – free-flow	0.000 – 0.600
B	Very good operation – stable flow, little or no delays	0.601 – 0.700
C	Good operation – slight delays	0.701 – 0.800
D	Fair operation – noticeable delays, queuing observed	0.801 – 0.900
E	Poor operation – long delays, near or at capacity	0.901 – 1.000
F	Forced flow – congestion	Over 1.000

Source: Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington D.C., 1985 and Interim Materials on Highway Capacity, NCHRP Circular 212, 1982.

Analysis of unsignalized intersections is conducted differently from signalized intersections due to different operating characteristics. Stop controlled intersections were analyzed using the delay-based Highway Capacity Manual (HCM) method of determining LOS. Table 5.3-2, *Level of Service Definitions for Unsignalized Intersections*, describes the LOS concept for unsignalized intersections.

Table 5.3-2
Level of Service Definitions for Unsignalized Intersections

LOS	LOS Description	Highway Capacity Manual Average Control Delay (sec/veh)
A	Little or no delay	< 10
B	Short traffic delays	> 10 and ≤ 15
C	Average traffic delays	> 15 and ≤ 25
D	Long traffic delays	> 25 and ≤ 35
E	Very long traffic delays	> 35 and ≤ 50
F	Severe congestion	> 50

LOS = level of service; sec = seconds; veh = vehicle.

Source: Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington D.C., 1985 and Interim Materials on Highway Capacity, NCHRP Circular 212, 1982.

PERFORMANCE CRITERIA

For CEQA purposes, defined performance criteria are utilized to determine if a proposed project causes a significant impact. Based on the City of Long Beach Traffic Impact Guidelines, an impact is considered significant when the resulting LOS with project traffic is E or F and project related traffic contributes a V/C of 0.020 or more to the critical movements.

Since the City of Long Beach does not have official criteria to determine significant traffic impacts at a stop-controlled intersection, a review of the unsignalized intersections near the project was performed to determine the relative increase in

delay for the purpose of significant impact determination. For the unsignalized intersections operating at LOS D or worse with the proposed project, a traffic signal analysis was completed. The traffic signal warrant analysis was completed using the methodologies and criteria set forth in the Manual on Uniform Traffic Control Devices (MUTCD) and the California Supplement to the MUTCD. The warrants consider projected traffic volumes, vehicular delay on side streets and the location and spacing of other traffic signals in the area.

The Congestion Management Program (CMP) for Los Angeles County requires that the traffic impact of individual development projects of potential regional significance be analyzed. A specific system of arterial roadways plus all freeways comprise the CMP system. The analysis has been conducted according to the guidelines set forth in the 2002 Congestion Management Program for Los Angeles County.

For purposes of the CMP, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by two percent of capacity (V/C $\geq$ 0.02), causing LOS F (V/C > 1.00). If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by two percent of capacity (V/C $\geq$ 0.02).

5.3.2 ENVIRONMENTAL SETTING

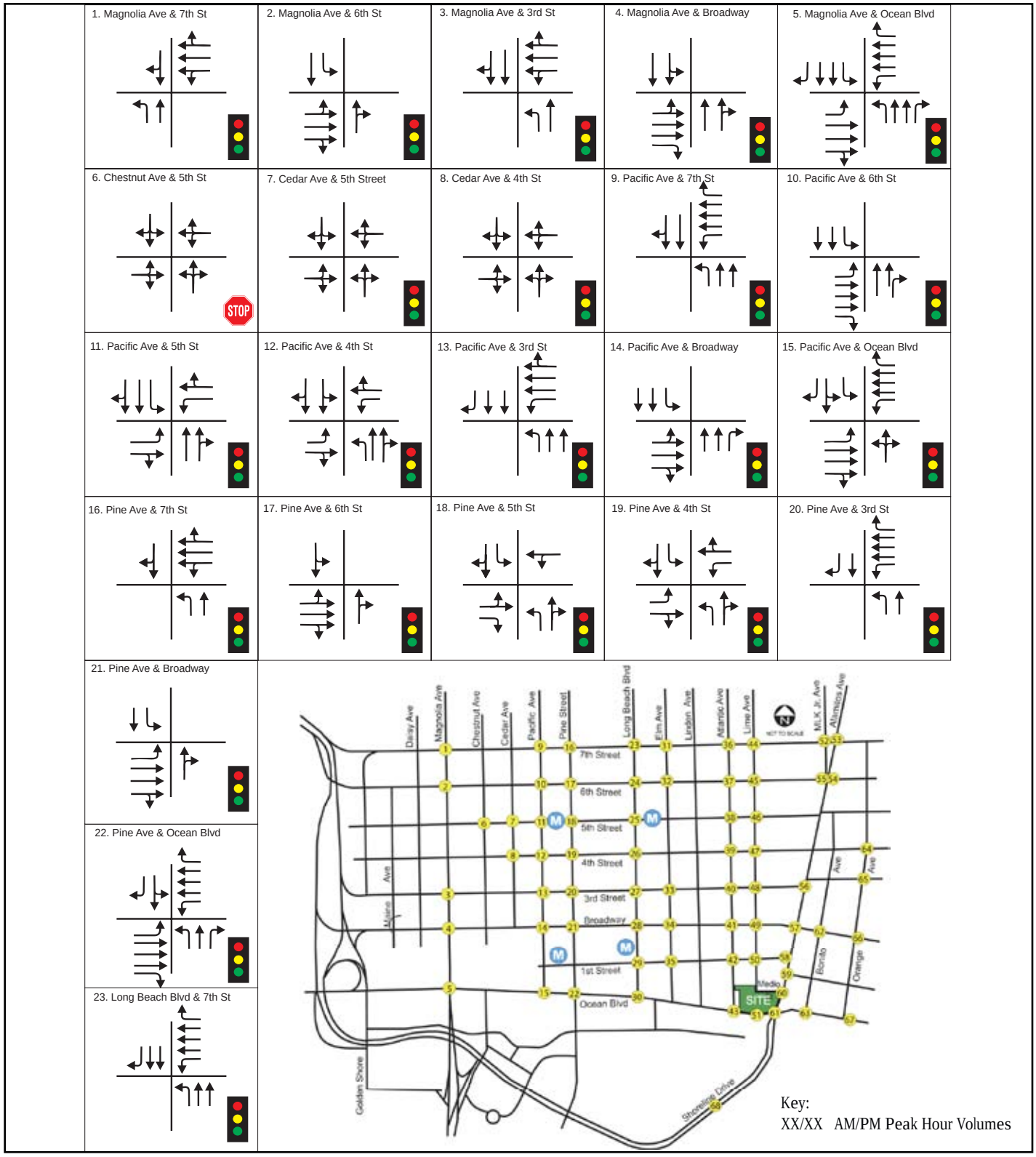
The following describes the transportation setting for the traffic analysis. Existing traffic conditions and planned improvements/modifications are discussed. The traffic setting discussion includes a description of the study area roadway system, existing traffic volumes and corresponding levels of service, as defined by the performance criteria.

EXISTING ROADWAY SYSTEM

The existing roadway network in the study area is illustrated on Exhibits 5.3-2a, 5.3-2b and 5.3-2b, *Existing Lane Configurations and Traffic Controls*. Roadways within the study area are described below:

- Shoreline Drive is referenced as a Regional Corridor in the *Long Beach General Plan* and provides east-west access through the attraction portion of downtown Long Beach, as well as direct access to and from I-710. There are three lanes in each direction with a raised median. On-street parking is allowed along Shoreline Drive between Chestnut and Pine Avenues and the posted speed limit is 45 miles per hour (mph). The average daily trips (ADT) in the study area ranges between 14,000 and 16,000 vehicles per day.

- Ocean Boulevard provides east-west linkage through downtown and provides indirect access to the I-710 and I-110 freeways and eastern Long Beach. It is classified as a Major Arterial, west of Alamitos Avenue, and provides three lanes in each direction with a raised center median. To the east of Alamitos Avenue, it is a four-lane, Minor Arterial. Parking is allowed on both sides of the street west of Magnolia Avenue and the posted speed limit is 30 mph. The ADT along Ocean Boulevard in the study area ranges between 36,000 and 39,000 vehicles per day.



Source: Meyer, Mohaddes Associates, Inc., April 2006.
Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

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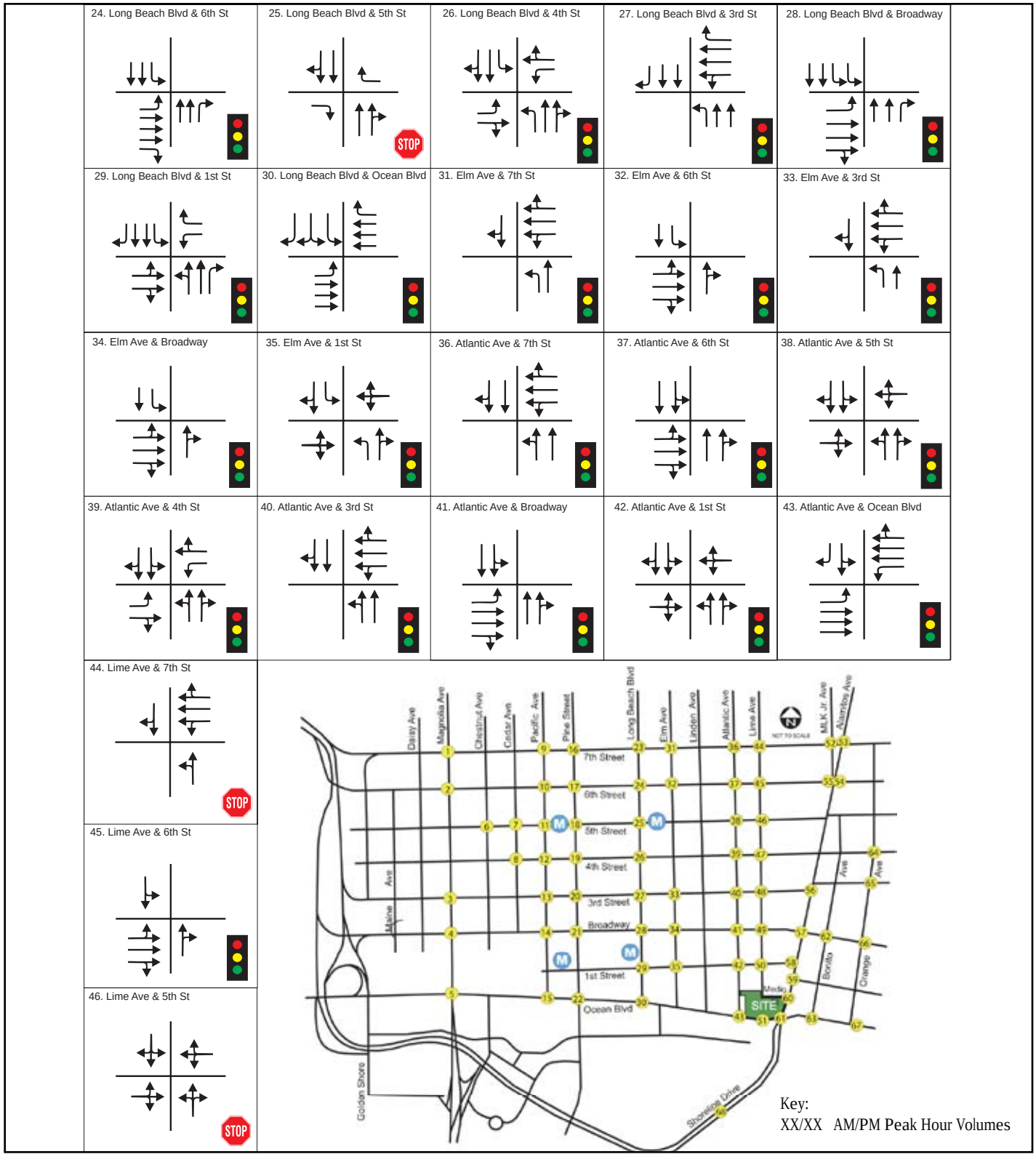
ENVIRONMENTAL IMPACT REPORT

Existing Lane Configuration and Traffic Controls (Study Intersections 1 to 23)

Exhibit 5.3-2a



Source: Meyer, Mohaddes Associates, Inc., April 2006.

Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

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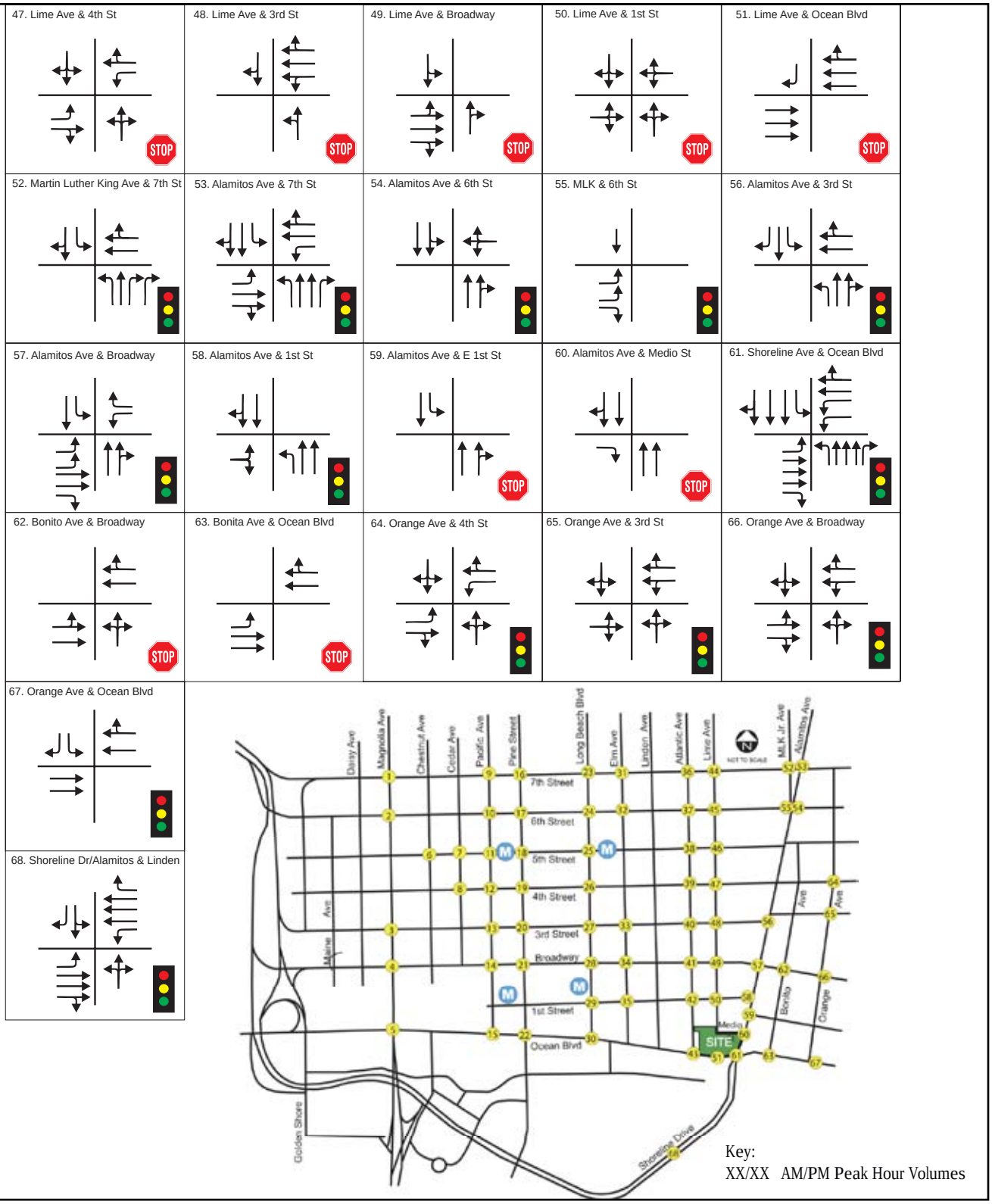
SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Existing Lane Configuration and Traffic Controls (Study Intersections 24 to 46)

Exhibit 5.3-2b



Source: Meyer, Mohaddes Associates, Inc., April 2006.

Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

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SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Existing Lane Configuration and Traffic Controls (Study Intersections 47 to 68)

Exhibit 5.3-2c

- Broadway provides three lanes and is classified as a one-way eastbound Major Arterial between the I-710 Freeway and Alamitos Avenue and a two-way Minor Arterial east of Alamitos. Parking is allowed along the north side of the street and the posted speed limit is 30 mph. The ADT along West Broadway in the study area ranges between 15,000 and 21,000 vehicles per day.

- 3rd Street provides direct east-west access within the downtown. It is currently designated as a Major Arterial between the I-710 Freeway and Alamitos Avenue in the City of Long Beach Transportation Element of the General Plan. Within the project area, 3rd Street is one-way and provides three lanes in the westbound direction. Parking is allowed on both sides of the roadway. The typical posted speed limit is 30 mph. The ADT along West 3rd Street in the study area ranges between 12,000 and 16,100 vehicles per day.

- 6th Street provides three lanes and is classified as a one-way eastbound Major Arterial between the I-710 Freeway and Alamitos Avenue and a two-way Minor Arterial east of Alamitos. Parking is allowed along some sections of the street and the posted speed limit is 30 mph. The ADT along 6th Street in the study area ranges between 1,300 and 13,100 vehicles per day.

- 7th Street provides three-lanes and is classified as a one-way westbound Major Arterial between the I-710 Freeway and Alamitos Avenue, and a two-way Regional Corridor, east of Alamitos. Parking is allowed along some sections of the street and the posted speed limit is 30 mph. The ADT along 7th Street in the study area ranges between 13,100 and 31,300 vehicles per day.

- Alamitos Avenue is a north-south Regional Corridor extending south from Pacific Coast Highway to Shoreline Drive. In the study area, it generally has two northbound and one southbound lane, with left-turn lanes at most intersections. Alamitos Avenue is an important gateway street for traffic coming into and out of downtown Long Beach. On-street parking contributes to congestion along Alamitos Avenue and, along some blocks, restricts the southbound traffic to one through lane except between 7th and 3rd Streets where two southbound lanes are provided between 7:00 AM and 9:00 AM. In the study area, the ADT ranges between 14,400 and 25,200 vehicles per day.

- Atlantic Avenue is a four lane, north-south Major Arterial that extends north from Ocean Boulevard to north of I-405. On-street parking is allowed along most of Atlantic Avenue in the study area. In the study area, the ADT ranges between 5,600 and 12,600 vehicles per day.

- Long Beach Boulevard is a north-south Major Arterial that extends north from Ocean Boulevard to north of I-405. It has a wide median that accommodates the MTA Blue Line light rail, with mid-block turns restricted to accommodate train movements and limit vehicles turning across the tracks. In the study area, the ADT ranges between 8,900 and 17,700 vehicles per day.

- Pine Avenue is a two lane, north-south Minor Arterial that is a primary entertainment corridor in the downtown with many shops, restaurants and theaters. Pine Street extends north from Shoreline Drive to Willow Street. In the study area, the ADT ranges between 4,000 and 6,800 vehicles per day.

- Pacific Avenue is a north-south Major Arterial that provides access to the downtown area and contains the northbound portion of the MTA Blue Line transit route. Pacific Avenue has two travel lanes in each direction with no or limited on-street parking. The ADT along Pacific Avenue in the study area ranges between 3,000 and 11,200 vehicles per day.

- Magnolia Avenue provides a north-south linkage to downtown and central Long Beach. It is classified as a Major Arterial south of 3rd Street and a Minor Arterial to the north in the City of Long Beach Transportation Element. Magnolia Avenue provides two lanes in each direction south of Broadway and one through lane in each direction to the north, with two-way left-turn lanes and on-street parking on both sides north of Broadway. The ADT along Magnolia Avenue in the study area ranges between 4,500 and 13,700 vehicles per day.

- I-710 Freeway is a north-south Regional Highway and provides access to the project from the communities to the north, as well as the regional Interstate system. North of the study area, it is part of the Los Angeles County Congestion Management Program's regional freeway system. The ADT along the I-710 Freeway in the study area is approximately 145,000 vehicles per day.

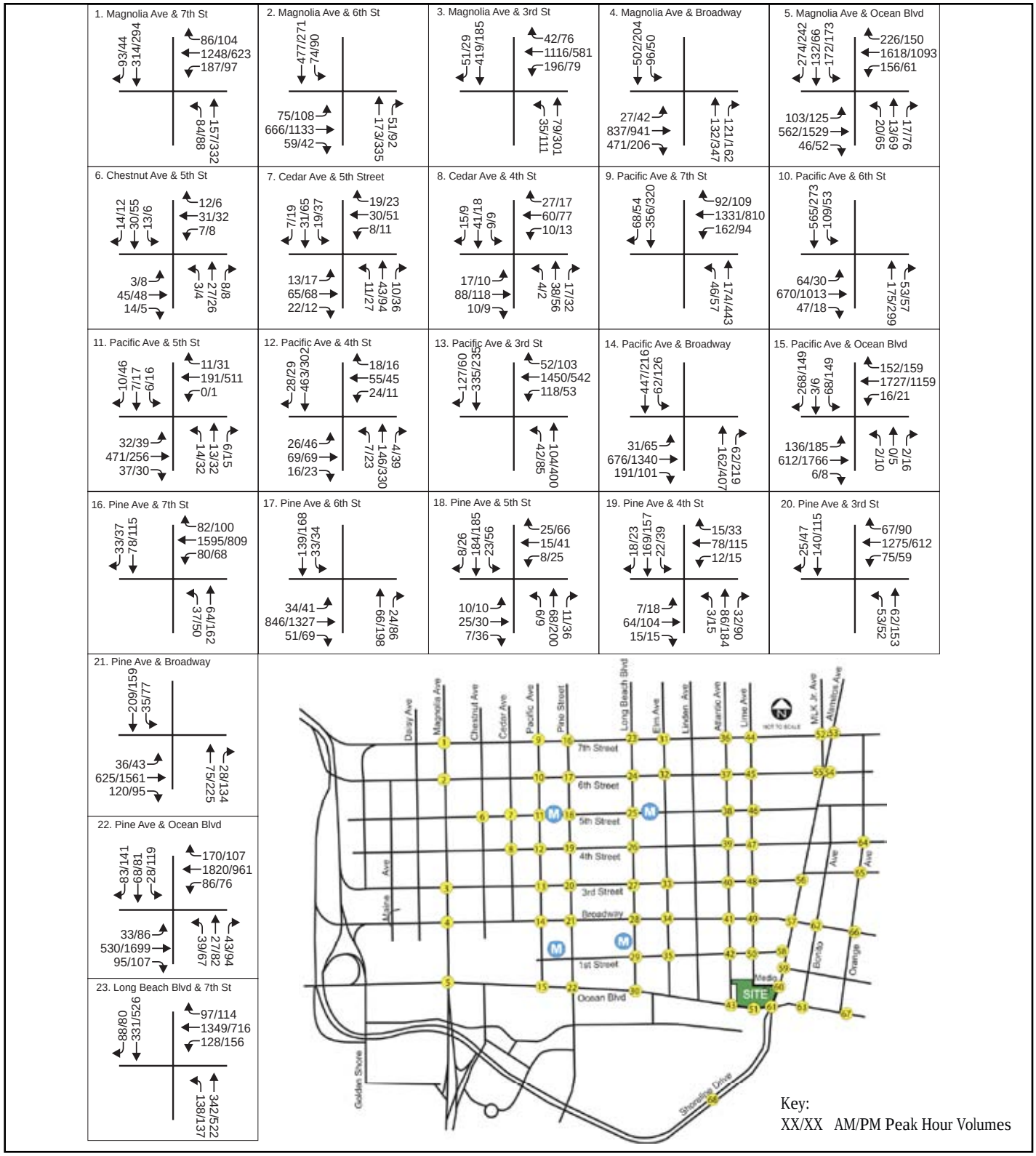
EXISTING TRAFFIC VOLUMES AND LEVELS OF SERVICE

The traffic analysis addresses typical morning (AM) and evening (PM) peak-hour intersection operations at each of the study intersections.

In order to determine the existing operation of the study intersections, existing intersection counts were taken in the AM and PM peak-hour periods. Peak hour turning movement volumes for each study area intersection are illustrated on Exhibit 5.3-3a, 5.3-3b and 5.3-3c, *Existing Peak Hour Intersection Volumes*. Detailed peak-hour count data are included in Appendix 15.3, *Traffic Impact Analysis*.

Table 5.3-3, *Existing Peak Hour LOS at Study Area Intersections*, summarizes the existing AM and PM peak-hour LOS of the study intersections. As indicated in Table 5.3-3, five of the study intersections are currently operating at an unacceptable LOS (LOS E or F), according to City of Long Beach performance criteria:

- Lime Avenue and 7th Street (AM peak hour only);
- Lime Avenue and Broadway (PM peak hour only);
- Alamitos Avenue and 3rd Street (AM peak hour only);
- Alamitos Avenue and Broadway (PM peak hour only); and
- Alamitos Avenue/Shoreline Drive and Ocean Boulevard (AM and PM peak hours).



Source: Meyer, Mohaddes Associates, Inc., April 2006.

Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

Not to Scale

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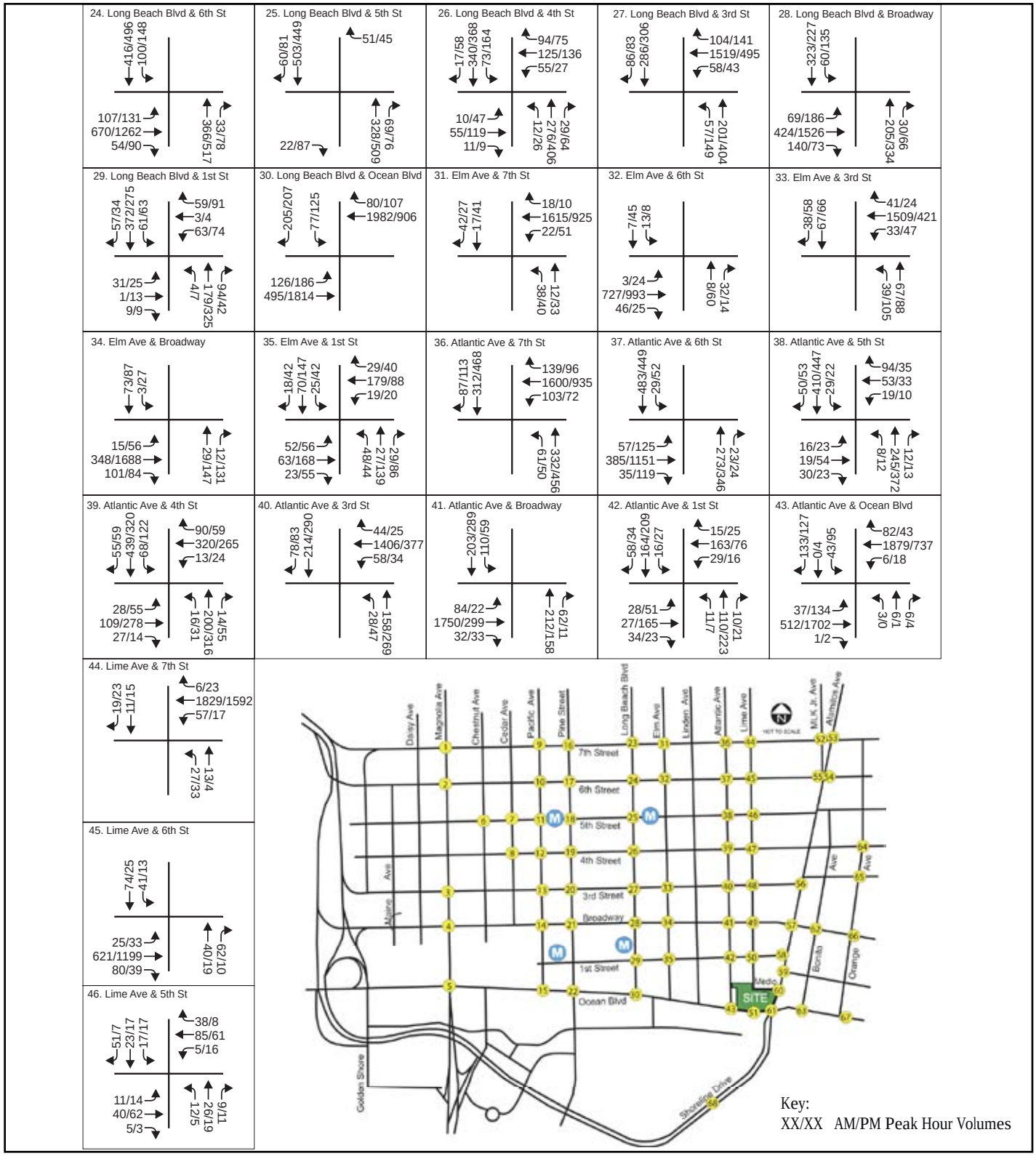
ENVIRONMENTAL IMPACT REPORT

Existing Peak Hour Intersection Volumes (Study Intersections 1 to 23)

Exhibit 5.3-3a



Source: Meyer, Mohaddes Associates, Inc., April 2006.

Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

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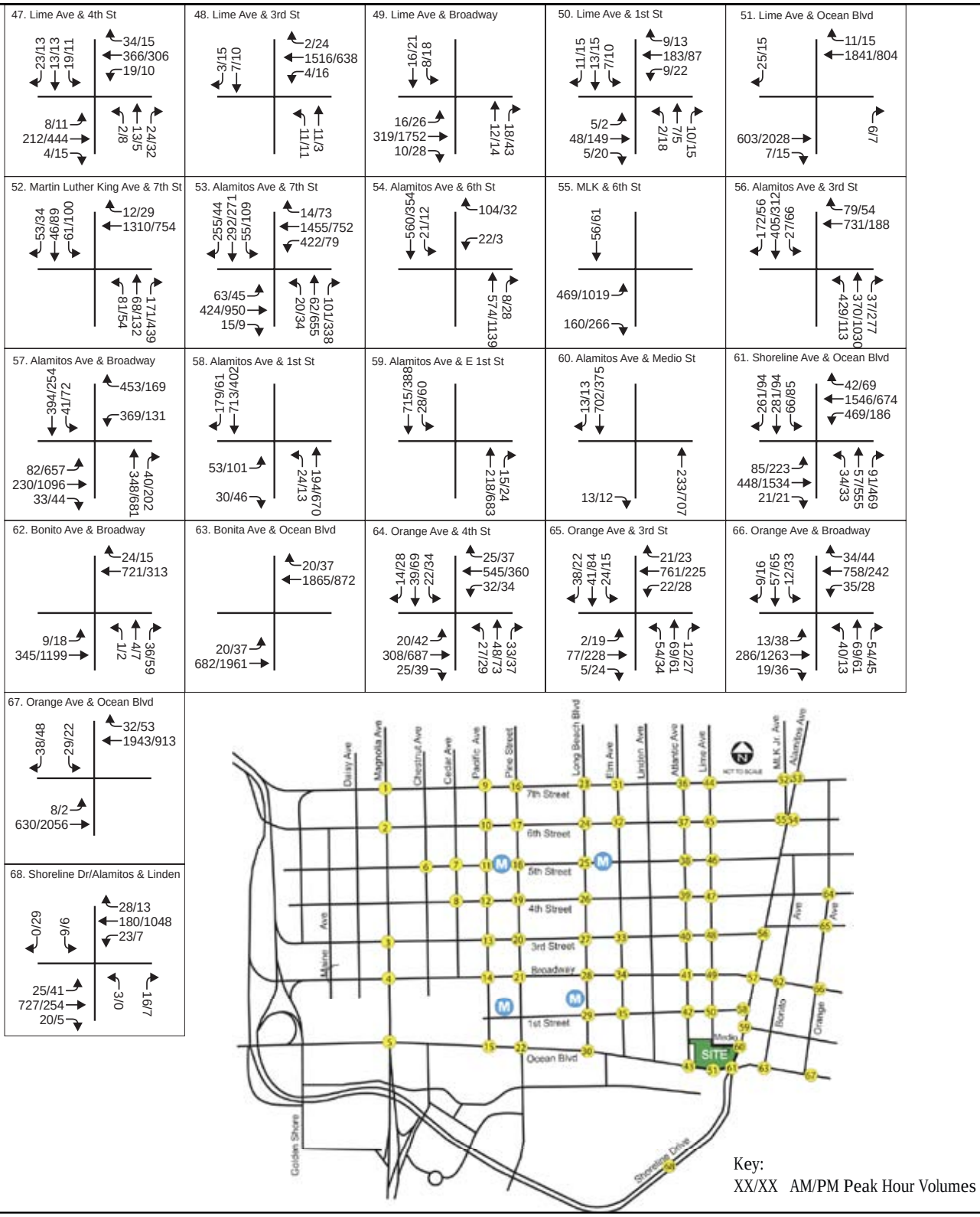
SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Existing Peak Hour Intersection Volumes (Study Intersections 24 to 46)

Exhibit 5.3-3b



Source: Meyer, Mohaddes Associates, Inc., April 2006.

Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

Not to Scale

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SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Existing Peak Hour Intersection Volumes (Study Intersections 47 to 68)

Exhibit 5.3-3c

Table 5.3-3
Existing Peak Hour LOS at Study Area Intersections

Study Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec/veh)	V/C	LOS	Delay (sec/veh)	V/C
Magnolia Avenue & 7th Street	C		0.80	A		0.58
Magnolia Avenue & 6th Street	B		0.63	C		0.76
Magnolia Avenue & 3rd Street	A		0.60	A		0.48
Magnolia Avenue & Broadway	B		0.62	A		0.53
Magnolia Avenue & Ocean Boulevard	B		0.70	B		0.70
Chestnut Avenue & 5th Street	A	10.0		B	10.3	
Cedar Avenue & 5th Street	A		0.25	A		0.30
Cedar Avenue & 4th Street	A		0.26	A		0.29
Pacific Avenue & 7th Street	B		0.61	A		0.48
Pacific Avenue & 6th Street	A		0.47	A		0.47
Pacific Avenue & 5th Street	A		0.45	A		0.59
Pacific Avenue & 4th Street	A		0.35	A		0.31
Pacific Avenue & 3rd Street	A		0.60	A		0.41
Pacific Avenue & Broadway	A		0.45	B		0.68
Pacific Avenue & Ocean Boulevard	C		0.76	B		0.65
Pine Avenue & 7th Street	A		0.57	A		0.45
Pine Avenue & 6th Street	A		0.43	B		0.64
Pine Avenue & 5th Street	A		0.29	A		0.40
Pine Avenue & 4th Street	A		0.31	A		0.44
Pine Avenue & 3rd Street	A		0.52	A		0.36
Pine Avenue & Broadway	A		0.44	C		0.79
Pine Avenue & Ocean Boulevard	B		0.63	C		0.71
Long Beach Boulevard & 7th Street	B		0.64	A		0.54
Long Beach Boulevard & 6th Street	A		0.47	B		0.65
Long Beach Boulevard & 5th Street	A		0.20	A		0.26
Long Beach Boulevard & 4th Street	A		0.42	A		0.56
Long Beach Boulevard & 3rd Street	A		0.57	A		0.42
Long Beach Boulevard & Broadway	A		0.35	B		0.63
Long Beach Boulevard & 1st Street	A		0.31	A		0.36
Long Beach Boulevard & Ocean Boulevard	B		0.70	A		0.58
Elm Avenue & 7th Street	A		0.52	A		0.39
Elm Avenue & 6th Street	A		0.32	A		0.38
Elm Avenue & 3rd Street	A		0.54	A		0.37
Elm Avenue & Broadway	A		0.28	C		0.71
Elm Avenue & 1st Street	A		0.38	A		0.47
Atlantic Avenue & 7th Street	B		0.68	A		0.58
Atlantic Avenue & 6th Street	A		0.40	A		0.57
Atlantic Avenue & 5th Street	A		0.39	A		0.36
Atlantic Avenue & 4th Street	A		0.58	A		0.55

Table 5.3-3 [continued]
Existing Intersections Peak Hour LOS

Study Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec/veh)	V/C	LOS	Delay (sec/veh)	V/C
Atlantic Avenue & 3rd Street	A		0.58	A		0.36
Atlantic Avenue & Broadway	C		0.70	A		0.29
Atlantic Avenue & 1st Street	A		0.36	A		0.40
Atlantic Avenue & Ocean Boulevard	B		0.64	A		0.57
Lime Avenue & 7th Street	**F**	**72.4**		D	29.5	
Lime Avenue & 6th Street	A		0.37	A		0.42
Lime Avenue & 5th Street	A	7.8		A	7.5	
Lime Avenue & 4th Street	C	15.3		C	17.7	
Lime Avenue & 3rd Street	D	30.3		B	12.0	
Lime Avenue & Broadway	B	11.8		**F**	**66.9**	
Lime Avenue & 1st Street	B	10.6		B	10.9	
Lime Avenue & Ocean Boulevard	B	13.9		B	12.5	
Martin Luther King Avenue & 7th Street	B		0.66	B		0.62
Alamitos Avenue & 7th Street	D		0.82	C		0.78
Alamitos Avenue & 6th Street	A		0.40	A		0.53
Martin Luther King Avenue & 6th Street	A		0.32	A		0.54
Alamitos Avenue & 3rd Street	**F**		**1.05**	B		0.66
Alamitos Avenue & Broadway	D		0.85	**E**		**0.95**
Alamitos Avenue & 1st Street	A		0.47	A		0.44
Alamitos Avenue & East 1st Street	A	7.8		A	9.6	
Alamitos Avenue & Medio Street	B	11.0		A	9.6	
Alamitos Avenue/Shoreline Drive & Ocean Boulevard	**E**		**0.94**	**E**		**0.93**
Bonito Avenue & Broadway	B	11.4		C	21.8	
Bonito Avenue & Ocean Boulevard	C	17.8		B	10.2	
Orange Avenue & 4th Street	A		0.60	C		0.71
Orange Avenue & 3rd Street	A		0.49	A		0.43
Orange Avenue & Broadway	A		0.55	B		0.69
Orange Avenue & Ocean Boulevard	C		0.79	D		0.81
Shoreline Drive & Linden	A		0.34	A		0.40

LOS = level of service; V/C = volume-to-capacity ratio; N/A = not applicable; sec = seconds; veh = vehicle.
Boldface = deficient intersection operation.

PARKING

Parking for existing residential, retail and office uses is provided in five surface parking lots. The project site includes approximately 72 surface parking spaces in three pay lots. Of these spaces, 41 are available for lease by residents of the

adjacent Artaban building and existing on-site apartment units.[1] The remaining 31 spaces are in an hourly lot located along Ocean Boulevard. There are also two dedicated business lots. The first is associated with the Long Beach Café site and the second is part of the Video Exchange site. Additionally, approximately 18 non-metered on-street parking spaces are provided adjacent to the project site.

PUBLIC TRANSPORTATION

There are five transit agencies that provide service within the project area: the Metropolitan Transportation Authority (MTA), Long Beach Transit (LBT), Torrance Transit, Los Angeles Department of Transportation (LADOT) and Orange County Transportation Authority (OCTA). The five transit agencies operate a total of 39 bus routes and one rail line in proximity to the proposed project, as described below:

MTA Bus Service

The MTA operates two bus lines daily through the 1st Street transit mall:

- Metro Line 60/360 (Long Beach Boulevard – Santa Fe Avenue); and
- Metro Line 232 (LAX to Long Beach).

MTA "Blue Line" Rail Service

In addition to the 39 bus lines operating in proximity to the proposed project, there is one Metro light rail line that travels through downtown Long Beach. The Metro Blue Line is part of the Metro Rail Transit System that runs north-south from Los Angeles to Long Beach. The Metro Blue Line starts at 7th Street/Metro Center/Julian Dixon in downtown Los Angeles and travels south via Long Beach Avenue, Willowbrook Avenue and Long Beach Boulevard to its final destination at the Long Beach Transit Mall. The train operates Monday through Sunday, including all major holidays.

Long Beach Transit Bus Service

LBT operates 28 bus routes through the 1st Street transit mall:

- Long Beach Transit Line 1 (Easy Avenue);
- Long Beach Transit Line 7 (Orange Avenue);
- Long Beach Transit Line 21 (Cherry Avenue);
- Long Beach Transit Line 22 (Downey Avenue);
- Long Beach Transit Line 23 (Cherry to Carson Street Only);
- Long Beach Transit Line 46 (Anaheim Street to downtown Long Beach);
- Long Beach Transit Line 51 (Long Beach Boulevard to Artesia Station);
- Long Beach Transit Line 52 (Long Beach Boulevard to Artesia Boulevard);
- Long Beach Transit Line 61 (Atlantic Avenue to Artesia Station);
- Long Beach Transit Line 62 (Atlantic Avenue to Alondra Boulevard);
- Long Beach Transit Line 63 (Atlantic Avenue to Artesia Boulevard);
- Long Beach Transit Line 66 (ZAP Atlantic);

[1] Based on parking survey conducted by Anderson Pacific LLC.

- Long Beach Transit Line 81 (10th Street to CSULB);
- Long Beach Transit Line 91 (7th Street/Bellflower Boulevard);
- Long Beach Transit Line 92 (7th Street/Woodruff Avenue);
- Long Beach Transit Line 93 (7th Street/Clark Avenue);
- Long Beach Transit Line 94 (7th Street to Los Altos Only);
- Long Beach Transit 96 ZAP (The 96 ZAP 7th Street);
- Long Beach Transit Line 111 (Broadway/Lakewood Boulevard);
- Long Beach Transit Line 112 (Broadway/Clark Avenue);
- Long Beach Transit Line 172 (PCH/Palo Verde);
- Long Beach Transit Line 173 (PCH/Studebaker);
- Long Beach Transit Line 174 (PCH/Ximeno Avenue Only);
- Long Beach Transit Line 181 (Magnolia/4th Street);
- Long Beach Transit Line 182 (Pacific Avenue/4th Street);
- Long Beach Transit Line 191 (Santa Fe/Del Amo Boulevard);
- Long Beach Transit Line 192 (Santa Fe/South Street); and
- Long Beach Transit Line 193 (Santa Fe via McHelen to Del Amo Station).

In addition, LBT operates free shuttle buses (the Passport) in the downtown area and between major attractions near the downtown. Passport routes in the project vicinity include:

- Passport A (Alamitos Bay Landing);
- Passport C (Queen Mary);
- Passport D (Los Altos); and
- Tour D'Art.

Torrance Transit Bus Service

Torrance Transit Line 3 (Redondo Beach to downtown Long Beach) travels east-west from the Redondo Beach Pier to downtown Long Beach. It operates Monday through Sunday, excluding New Year's Day, Thanksgiving Day and Christmas.

LADOT Transit Service

Los Angeles Department of Transportation (LADOT) Commuter Express Line 142 (San Pedro/Terminal Island/Long Beach Express) runs predominately east-west from Ports O'Call and Sampson in San Pedro to the Long Beach Transit Mall via 10th Street, SR-47, Ocean Boulevard and Long Beach Boulevard. It operates Monday through Sunday, including all major holidays.

OCTA Transit Service

Orange County Transportation Authority (OCTA) Route 60 (Long Beach to Tustin) operates through the 1st Street transit mall. It runs east-west from the Long Beach Transit Mall to Larwin Square in Tustin via 7th Street, Westminster and 17th Street. It operates Monday through Sunday, including all major holidays.

5.3.3 SIGNIFICANCE THRESHOLD CRITERIA

To determine whether the addition of project-generated trips results in a significant impact at a study intersection and thus requires mitigation, the City of Long Beach utilizes the following threshold of significance:

- An impact is considered significant when the resulting LOS with project traffic is E or F and project-related traffic contributes a V/C of 0.020 or more to the critical movements.

To determine whether the addition of project-generated trips results in a significant impact at a CMP study facility and thus requires mitigation, the CMP utilizes the following threshold of significance:

- A significant impact would occur when the proposed project increases traffic demand on a CMP facility by two percent of capacity (V/C $\geq$ 0.02), causing LOS F (V/C > 1.00). If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by two percent of capacity (V/C $\geq$ 0.02).

According to Appendix G, the Initial Study Checklist, of the *CEQA Guidelines*, a project would typically have a significant impact on traffic and circulation if the project would:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections);

- Exceed, either individually or cumulatively, an LOS standard established by the County CMP agency for designated roads or highways;

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; refer to Section 10.0, *Effects Found Not To Be Significant*;

- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); refer to Section 10.0, *Effects Found Not To Be Significant*;

- Result in inadequate emergency access; refer to Section 10.0, *Effects Found Not To Be Significant*, and Section 5.6, *Public Services and Utilities*;

- Result in inadequate parking capacity; and/or

- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Based on these standards, the effects of the proposed project have been categorized as either a “less than significant impact” or a “potentially significant

impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact.

5.3.4 IMPACTS AND MITIGATION MEASURES

PROJECT TRIP GENERATION

In order to calculate trips forecasted to be generated by the proposed project, Institute of Transportation Engineers (ITE) Trip Generation rates were utilized. Buildout of the proposed project is anticipated to be completed by 2015.

Table 5.3-4, *Proposed Project Trip Generation*, summarizes the trips forecast to be generated by the proposed project. As shown in Table 5.3-4, the proposed project is forecast to generate approximately 3,080 daily trips, which includes 148 AM peak hour trips and 278 PM peak-hour trips.

Table 5.3-4
Proposed Project Trip Generation

Land Use	Size	Units	ITE Code	Trips Generated						
				AM Peak-Hour Trips			PM Peak-Hour Trips			Daily 24-Hour
				Total	In	Out	Total	In	Out	
Residential	358	DU	230	143	24	119	171	115	56	1,898
Non Auto Trips Reduction[1]				-7	-1	-6	-9	-6	-3	-95
Residential Subtotal				136	23	113	162	109	53	1,803
Retail	13,561	SF	820	47	29	18	167	80	87	1,853
Non Auto Trips Reduction[1]				-2	-1	-1	-8	-4	-4	-93
Retail Subtotal				45	28	17	159	76	83	1,760
Existing Residential to be Removed	63	DU		-20	-6	-14	-14	-11	-3	-152
Existing Retail to be Removed	20,981	SF		-13	-8	-5	-29	-17	-12	-331
Existing to be Removed Subtotal				-33	-14	-19	-43	-28	-15	-483
PROJECT TOTAL				**148**	**37**	**111**	**278**	**157**	**121**	**3,080**

DU = dwelling unit; SF = square feet; ITE 230 = condominiums/townhouse; ITE 820 = shopping center.

Note:
[1] Non-Auto Trip Reduction is equivalent to five percent.
Existing trips based on field survey of the existing parking areas.

Source: Institute of Transportation Engineers, Trip Generation, 7th Edition.

Transit Trip Generation and Mode Assignment

Transit usage by the proposed project residents and patrons is expected to be higher than average because of the availability of bus and rail service in the area. However, to provide a conservative analysis of auto use, the transit usage rate was assumed to be 3.5 percent, which is the average for this area of Los Angeles County.

The projected future transit ridership for the proposed project was estimated based on the overall trip generation for the project using the ITE rates and then multiplying that total trip generation by the 3.5 percent transit usage rate. A 5.0 percent non-auto use factor was included in the trip assignments. This includes a reduction for transit and walking trips.

The assumptions and analyses used to determine the number of percentage trips assigned to transit were calculated using guidelines set forth in the 2004 Congestion Management Program for Los Angeles County. The total number of additional transit riders that the proposed project could create is projected to be approximately 8 in the AM peak hour and 14 in the PM peak hour; refer to Table 5.3-5, *Proposed Project Transit Trip Generation*.

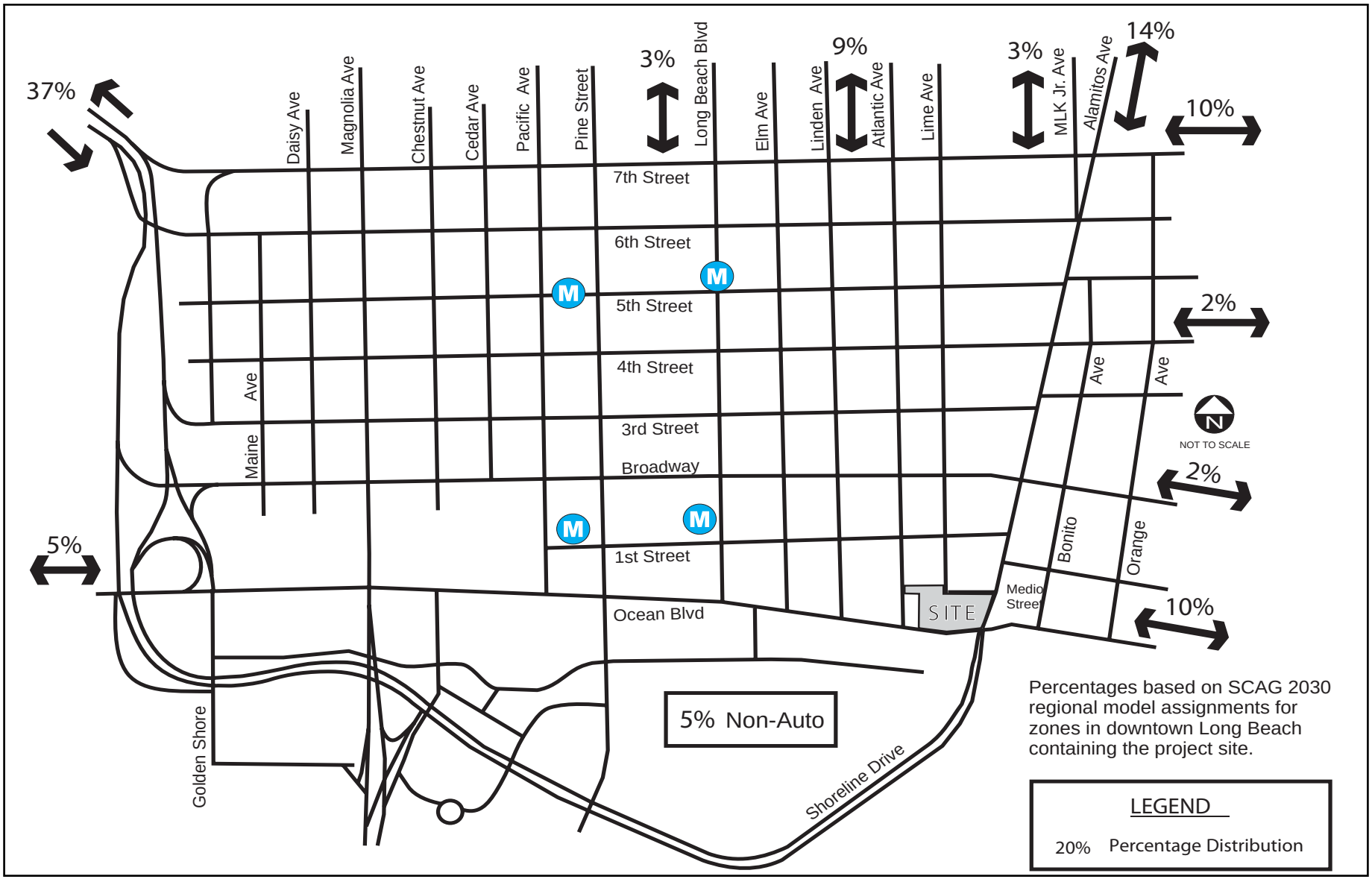
Table 5.3-5
Proposed Project Transit Trip Generation

Land Use	Total Trips	
	AM Peak Hour	PM Peak Hour
Proposed Residential	143	171
Proposed Retail	47	167
Existing Residential	-20	-14
Existing Retail	-13	-29
Subtotal	157	295
Total Person Trips[1]	220	413
Total New Transit Riders	**8**	**14**

[1] Based on a person trip rate of 1.4.

Project Trip Distribution and Assignment

Trip distribution to and from the proposed project site was determined based on the patterns of existing area traffic for similar types of developments, patterns listed in previous traffic studies for the area and on a select-zone analysis using the SCAG 2030 regional model for the downtown Long Beach area. For the proposed project, trip assignment is primarily based on the residential component of the development, as the retail/commercial component would serve predominantly local uses. Exhibit 5.3-4, *Forecast Proposed Project Trip Distribution*, illustrates the trip distribution for the proposed project.



Source: Meyer, Mohaddes Associates, Inc., April 2006.

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Exhibit 5.3-4

SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Forecast Proposed Project Trip Distribution

The forecast trips generated by the proposed project were assigned to the area street system using the trip directional distribution described above. Because there are multiple access routes from the north, south, east and west, the routes used for each user type (i.e., resident, guest, patron, etc.) was considered depending on the user type's access route location. Exhibit 5.3-5a, 5.3-5b and 5.3-5c, *Forecast Proposed Project Peak Hour Intersection Volumes*, illustrates the trip assignment for the proposed project.

PROJECT IMPACTS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN ADVERSE IMPACTS TO THE FUNCTION OF INTERSECTIONS IN THE PROJECT AREA.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: The following discussion addresses impacts under 2015 without project and 2015 with project conditions.

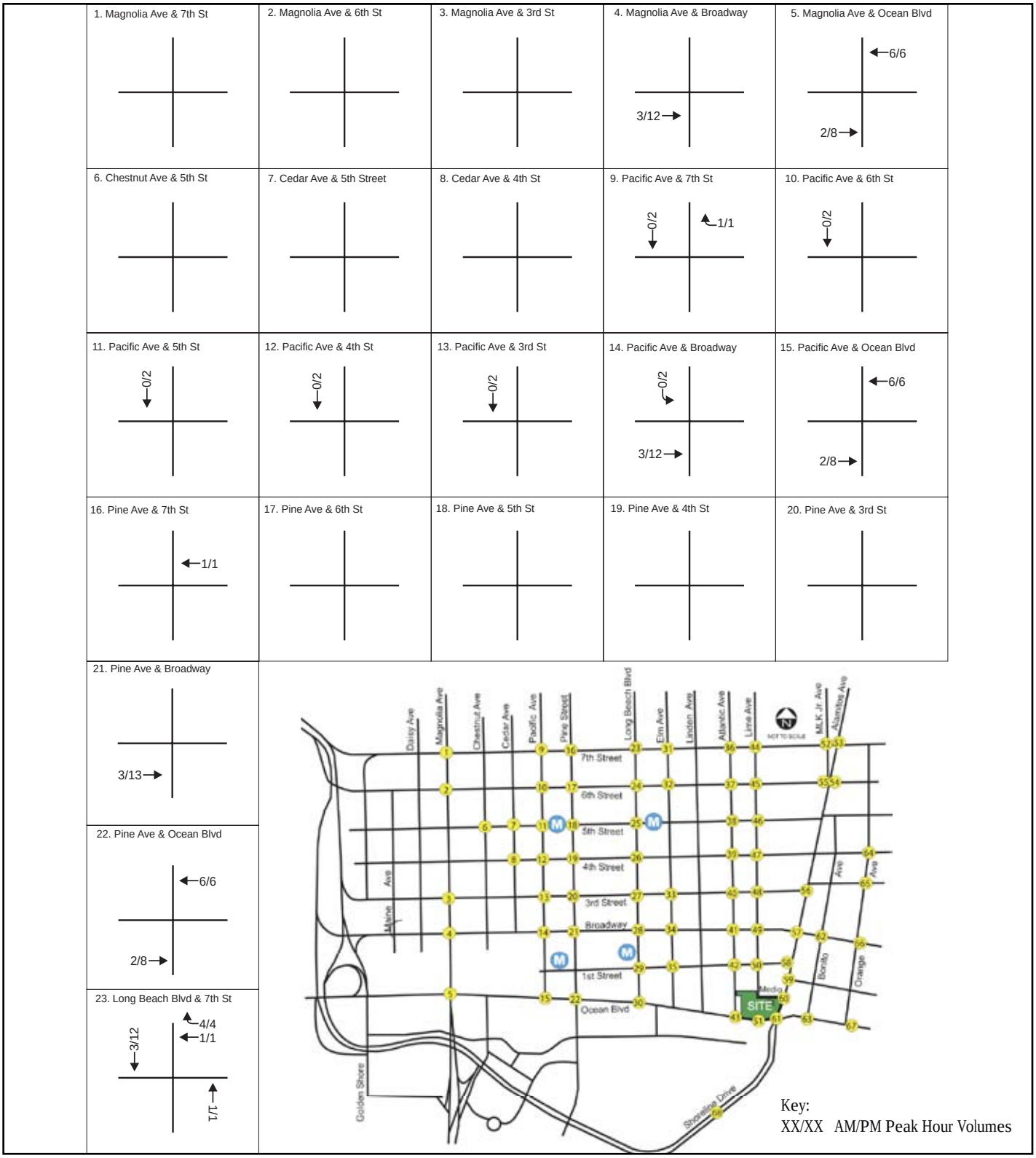
FORECAST YEAR 2015 WITHOUT PROJECT CONDITIONS

Forecast year 2015 without project traffic conditions were generated by applying ambient traffic growth (general background regional growth) to existing traffic volumes plus growth in traffic volumes generated by specific cumulative projects expected to be completed by 2015.

Ambient growth is considered regional background growth from development and growth located outside the study area and increased activity at existing developments within the study area. Based on discussions and feedback from City of Long Beach staff, MMA applied an annual background growth rate of 1.00 percent to existing traffic volumes to account for forecast year 2015 ambient growth in the project vicinity.

Several related cumulative projects within the downtown area are anticipated to be operating by 2015, as outlined in Section 4.0, *Basis of Cumulative Analysis*. The City provided a list of new development and redevelopment projects in the general area including the location, number of units or square footage and percent complete for each project. Cumulative projects already constructed, but not occupied, were also included within the analysis. Forecast trip estimates for the related cumulative projects were developed based on ITE rates. Adjustments were included for pass-by and non-auto trips based on information in the ITE trip generation publication and rates developed for other developments in downtown Long Beach. While transit access to the project site is available, an explicit reduction in trips for transit use was not included. This is because the overall use of transit in the area could not be defined and the trip rates for uses, such as apartments, in the ITE manual include some use of transit in their calculations.

Table 5.3-6, *Forecast Cumulative Projects Trip Generation*, summarizes the peak hour trips forecast to be generated from the related cumulative projects; refer to Appendix 15.3 for detailed trip generation development.



Source: Meyer, Mohaddes Associates, Inc., April 2006.

Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

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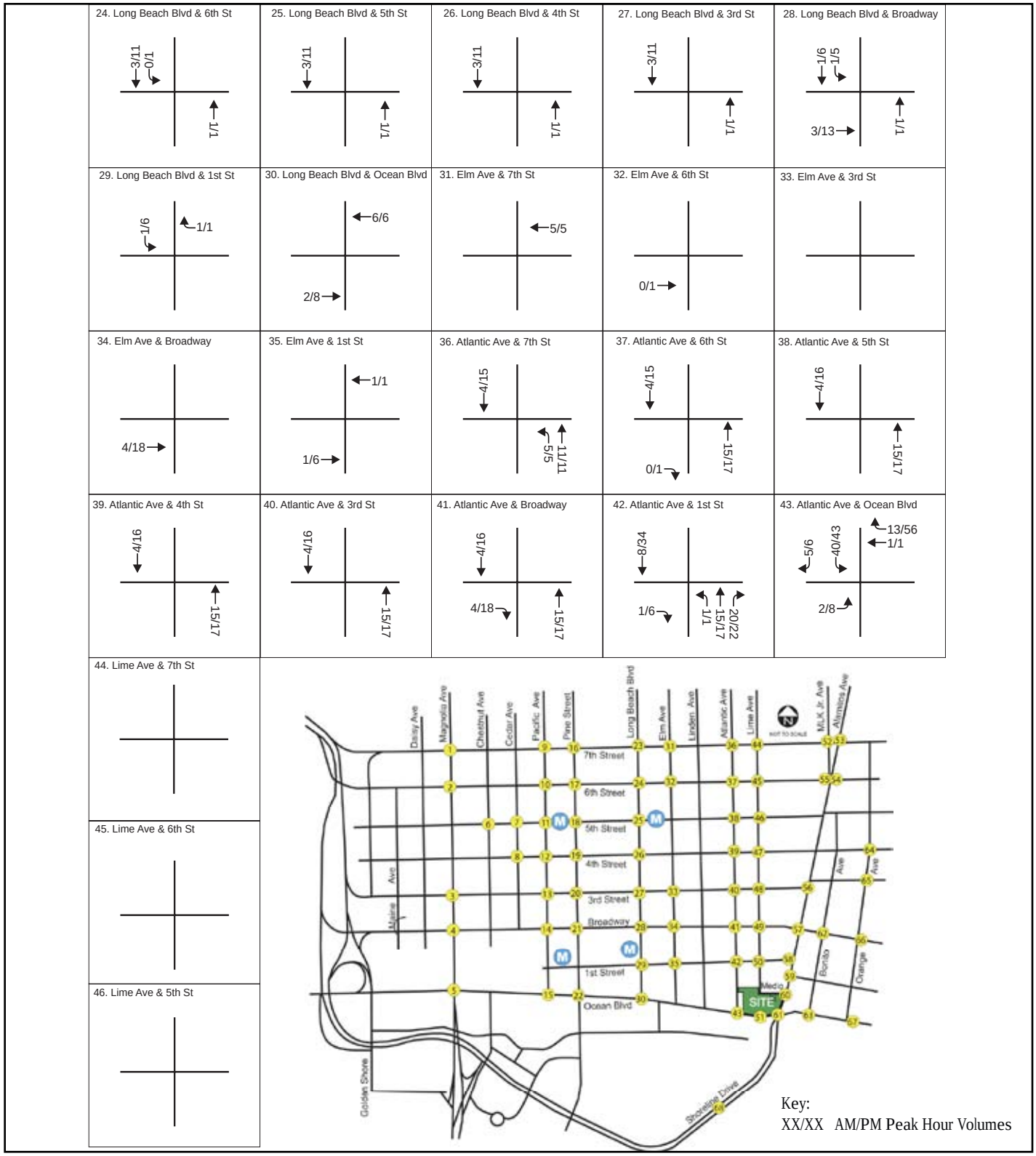
SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Forecast Proposed Project Peak Hour Intersection Volumes (Study Intersections 1 to 23)

Exhibit 5.3-5a



Source: Meyer, Mohaddes Associates, Inc., April 2006.

Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

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SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Forecast Proposed Project Peak Hour Intersection Volumes (Study Intersections 24 to 46)

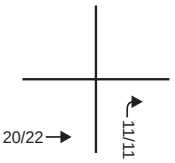
Exhibit 5.3-5b

47. Lime Ave & 4th St

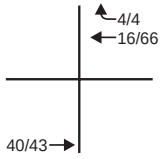
48. Lime Ave & 3rd St

49. Lime Ave & Broadway

50. Lime Ave & 1st St

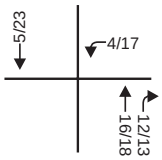


51. Lime Ave & Ocean Blvd

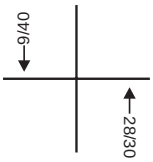


52. Martin Luther King Ave & 7th St

53. Alamitos Ave & 7th St

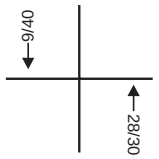


54. Alamitos Ave & 6th St

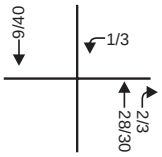


55. MLK & 6th St

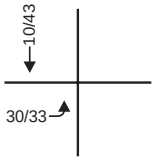
56. Alamitos Ave & 3rd St



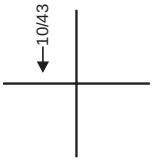
57. Alamitos Ave & Broadway



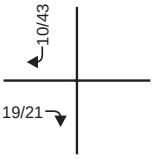
58. Alamitos Ave & 1st St



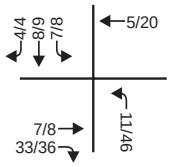
59. Alamitos Ave & E 1st St



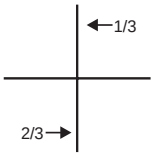
60. Alamitos Ave & Medio St



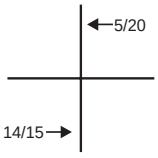
61. Shoreline Ave & Ocean Blvd



62. Bonito Ave & Broadway



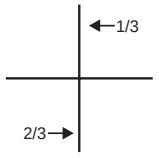
63. Bonita Ave & Ocean Blvd



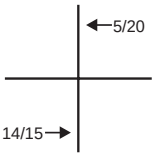
64. Orange Ave & 4th St

65. Orange Ave & 3rd St

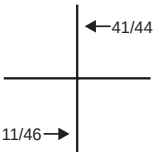
66. Orange Ave & Broadway

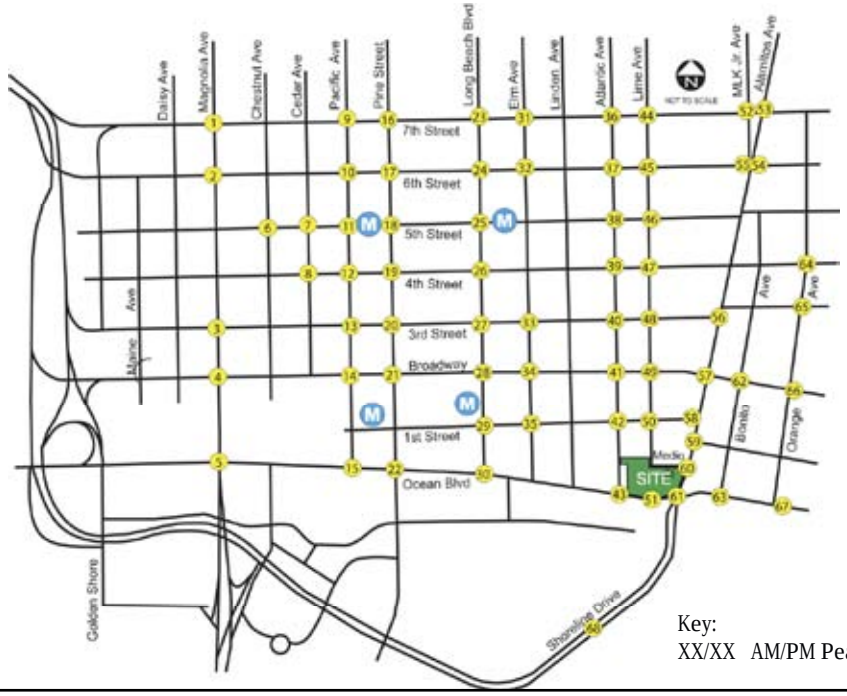


67. Orange Ave & Ocean Blvd



68. Shoreline Dr/Alamitos & Linden





Key:
XX/XX AM/PM Peak Hour Volumes

Source: Meyer, Mohaddes Associates, Inc., April 2006.
Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

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ENVIRONMENTAL IMPACT REPORT

Forecast Proposed Project Peak Hour Intersection Volumes (Study Intersections 47 to 68)

Exhibit 5.3-5c

As indicated in Table 5.3-6, the related cumulative projects are forecasted to generate approximately 72,722 daily trips, which include 3,945 AM peak hour trips and 5,358 PM peak hour trips.

Trip distribution from the cumulative projects was determined based on the patterns of existing area traffic for similar types of developments and on patterns listed in previous traffic studies for the area. The trips generated by the cumulative projects were assigned to the area street system based on this directional distribution.

Exhibit 5.3-6a, 5.3-6b and 5.3-6c, *Forecast Year 2015 Without Project Peak Hour Intersection Volumes*, shows forecast year 2015 without project conditions peak-hour intersection traffic volumes.

Table 5.3-7, *Forecast Year 2015 Without Project Conditions Peak Hour Intersection LOS*, summarizes the AM and PM peak hour LOS of the study intersections.

As indicated in Table 5.3-7, 14 study intersections are forecasted to operate at a deficient LOS (LOS E or F) according to City of Long Beach performance criteria for forecast year 2105 without project conditions:

- Magnolia Avenue and 7th Street (AM peak hour only);
- Magnolia Avenue and 6th Street (PM peak hour only);
- Pacific Avenue and Broadway (PM peak hour only);
- Pacific Avenue and Ocean Boulevard (AM peak hour only);
- Pine Avenue and Broadway (PM peak hour only);
- Pine Avenue and Ocean Boulevard (PM peak hour only);
- Lime Avenue and 7th Street (AM and PM peak hours);
- Lime Avenue and 3rd Street (AM peak hour only);
- Lime Avenue and Broadway (PM peak hour only);
- Alamitos Avenue and 7th Street (AM and PM peak hours);
- Alamitos Avenue and 3rd Street (AM peak hour only);
- Alamitos Avenue and Broadway (AM and PM peak hours);
- Alamitos Avenue/Shoreline Drive and Ocean Boulevard (AM and PM peak hours); and
- Orange Avenue and Ocean Boulevard (AM and PM peak hours).

FORECAST YEAR 2015 WITH PROJECT CONDITIONS

Forecast year 2015 with project traffic volumes were derived by adding forecast project-generated trips to forecast year 2015 without-project traffic volumes.

Exhibits 5.3-7a, 5.3-7b and 5.3-7c, *Forecast Year 2015 With Project Peak Hour Intersection Volumes*, shows forecast year 2015 with project AM and PM peak hour intersection traffic volumes.

Table 5.3-6
Forecast Cumulative Projects Trip Generation

Pending/Approved Project Location	Proposed Uses	AM Peak-Hour Trips			PM Peak-Hour Trips			Daily 24-Hour Trips
		Total	In	Out	Total	In	Out	
201 The Promenade	162 hotel rooms	74	45	29	96	51	45	1,823
	4,000 Sq. ft. retail	23	14	9	37	36	1	838
	7,000 Sq. ft. restaurant	65	42	23	61	37	24	890
517 E. 1st Street	69 hotel rooms	26	16	10	41	22	19	991
224-248 E. Broadway	48 condo units	29	5	24	33	22	11	344
	14,000 Sq. ft. retail	47	29	18	84	80	3	1,853
	3,000 Sq. ft. restaurant	27	19	8	20	12	8	400
835 Locust Avenue	82 condo units	54	14	41	68	39	29	542
201 E. Broadway	11 condo units	9	2	7	10	7	3	98
100 E. Ocean Boulevard	155 apartment units	80	16	64	103	67	36	1,082
350 E. Ocean Boulevard	556 apartment units	276	55	221	323	210	113	3,492
200 E. Broadway	62 apartment units	34	7	27	52	34	18	523
	9,000 Sq. ft. retail	38	23	15	66	63	3	1,467
640 Long Beach Boulevard	12,000 Sq. ft. retail	44	25	19	51	76	-25	1,058
400 W. Ocean	246 apartment units	124	25	99	153	99	54	1,629
150 W. Ocean Boulevard	216 apartment units	110	22	88	136	89	48	1,449
110 W. Ocean Boulevard	45 apartment units	26	5	21	42	28	15	421
4th St and Elm Avenue	72 apartment units	39	8	31	57	37	20	583
Promenade site between Broadway and 3rd Street	96 apartment units	51	10	41	70	46	25	727
	14,000 Sq. ft. retail	48	29	19	86	82	3	1,892
133 The Promenade	83 apartment units	44	9	36	63	41	22	649
	22,000 Sq. ft. retail	64	39	25	117	112	5	2,570
433 Pine Avenue	30 apartment units	18	4	15	34	22	12	331
600 W. Broadway	1,329 condo units	409	70	339	501	336	165	5,787
	10,000 Sq. ft. retail	39	24	15	68	66	3	1,520
745 W. 3rd Street	64 apartment units	35	7	28	53	34	18	535
427 W. 6th Street	10 apartment units	9	2	7	23	15	8	210
125 Linden Avenue	30 condo units	20	3	16	22	15	7	231
	2,000 Sq. ft. retail	15	9	6	31	23	9	534
250 Pacific Avenue	142 condo units	68	12	57	80	54	26	865
210 W. 3rd Street	94 apartment units	50	10	40	69	45	24	715
	3,000 Sq. ft. retail	19	12	7	20	29	-9	689
	123,000 Sq. ft. office	190	167	23	183	31	152	1,560

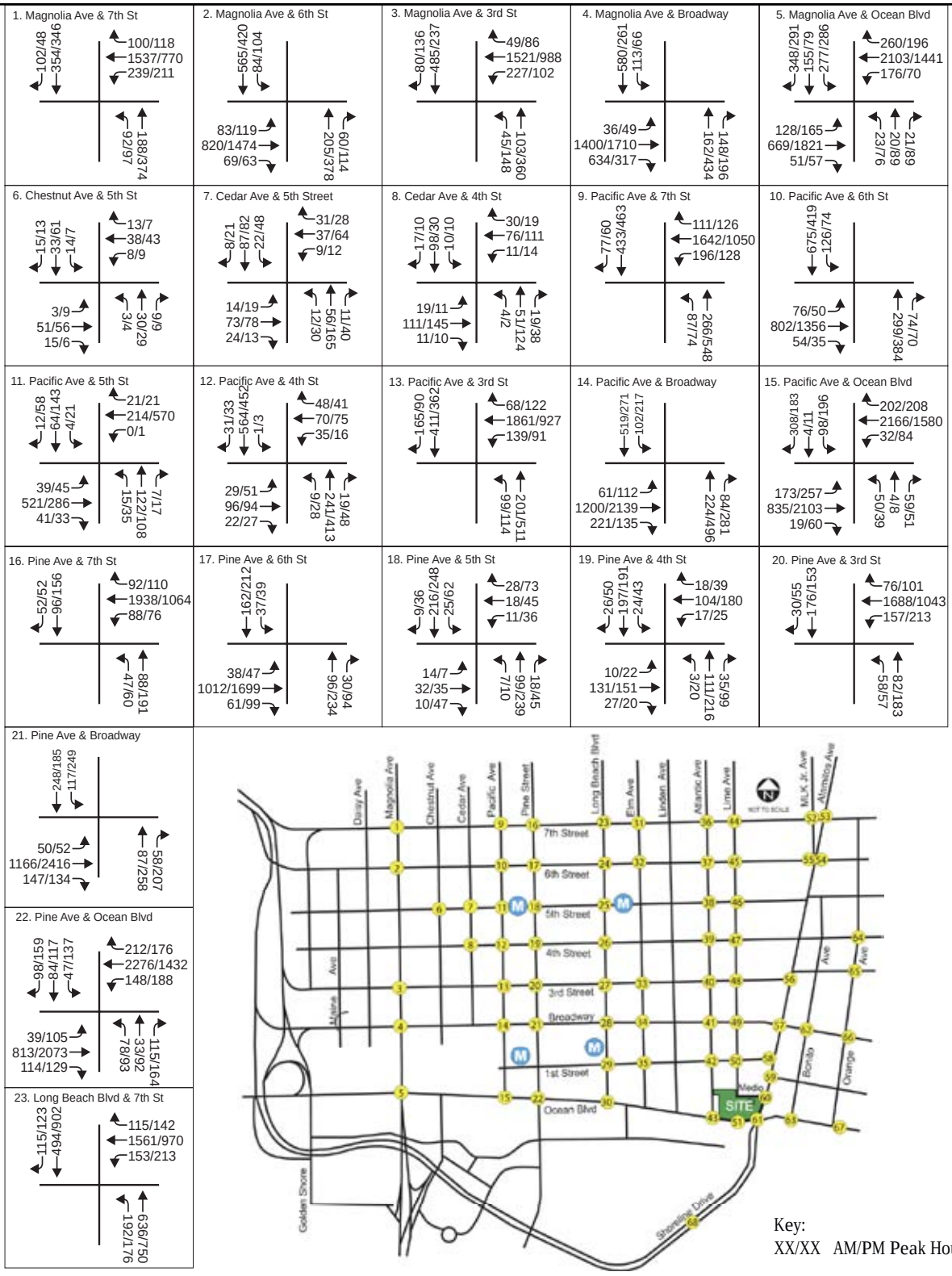
Table 5.3-6 [continued]
Forecast Related Cumulative Projects Trip Generation

Pending/Approved Project Location	Proposed Uses	AM Peak-Hour Trips			PM Peak-Hour Trips			Daily 24-Hour Trips
		Total	In	Out	Total	In	Out	
643 W. Broadway	345 apartment units	173	35	138	207	135	73	2,224
	15,000 Sq. ft. retail	0	0	0	0	0	0	1,979
505 W. Broadway	164 condo units	77	13	64	90	60	30	977
421 W. Broadway	190 condo units	86	15	72	102	68	34	1,108
285 Bay Street	140 hotel rooms	62	38	24	83	44	39	1,626
350 Long Beach Boulevard	82 condo units	44	7	37	51	34	17	542
	7,000 Sq. ft. retail	32	19	12	54	52	2	1,206
Shoreline Drive and Pine Avenue	96,000 Sq. ft. retail	114	70	45	402	219	183	6,603
	14,000 Sq. ft. restaurant	152	83	69	87	52	35	1,771
604 Pine Avenue	482 condo units	182	31	151	218	146	72	2,444
	9,000 Sq. ft. retail	37	23	14	64	61	3	1,420
432 West Ocean	80 condo units	43	7	36	50	34	17	531
	140 hotel rooms	62	38	24	83	44	39	1,626
Pacific Avenue between 3rd and 4th Streets	171 condo units 20,000 Sq. ft. retail	88	20	68	141	85	56	1,538
Long Beach Boulevard between 1st Street and Broadway	446 condo units 11,000 Sq. ft. retail	203	53	150	337	198	139	3,748
Block bounded by 3rd Street, Elm Avenue, Broadway and Long Beach Boulevard	179 condo units 16,000 Sq. ft. retail	172	68	104	192	120	72	2,038
1st Street and Elm Avenue	54 condo units	14	3	11	3	3	0	43
100 Long Beach Boulevard	72 condo units	8	-24	32	9	25	-16	248
600 East Broadway and 631-633 East 1st Street	62,000 Sq. ft. retail	148	100	48	341	164	177	2,933
Block bounded by 5th Street, Pacific Avenue, 4th Street and Cedar	141 condo units 23,000 Sq. ft. retail	33	4	29	28	20	8	318
Pacific Avenue between 4th and 5th Streets	118 apartment units	12	-10	22	-39	-9	-30	-499
	Total	**3,945**	**1,369**	**2,576**	**5,358**	**3,514**	**1,844**	**72,722**

Sq. ft. = square feet

Note: Portions of projects that were complete and occupied at the time of the traffic counts were not included as their trips would have been included in the existing intersection traffic volumes.

Source: ITE Trip Generation Manual, 7th Ed., 2003. Equation-based rates were used where available; otherwise average trip rates were utilized.



Source: Meyer, Mohaddes Associates, Inc., April 2006.

Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

Not to Scale

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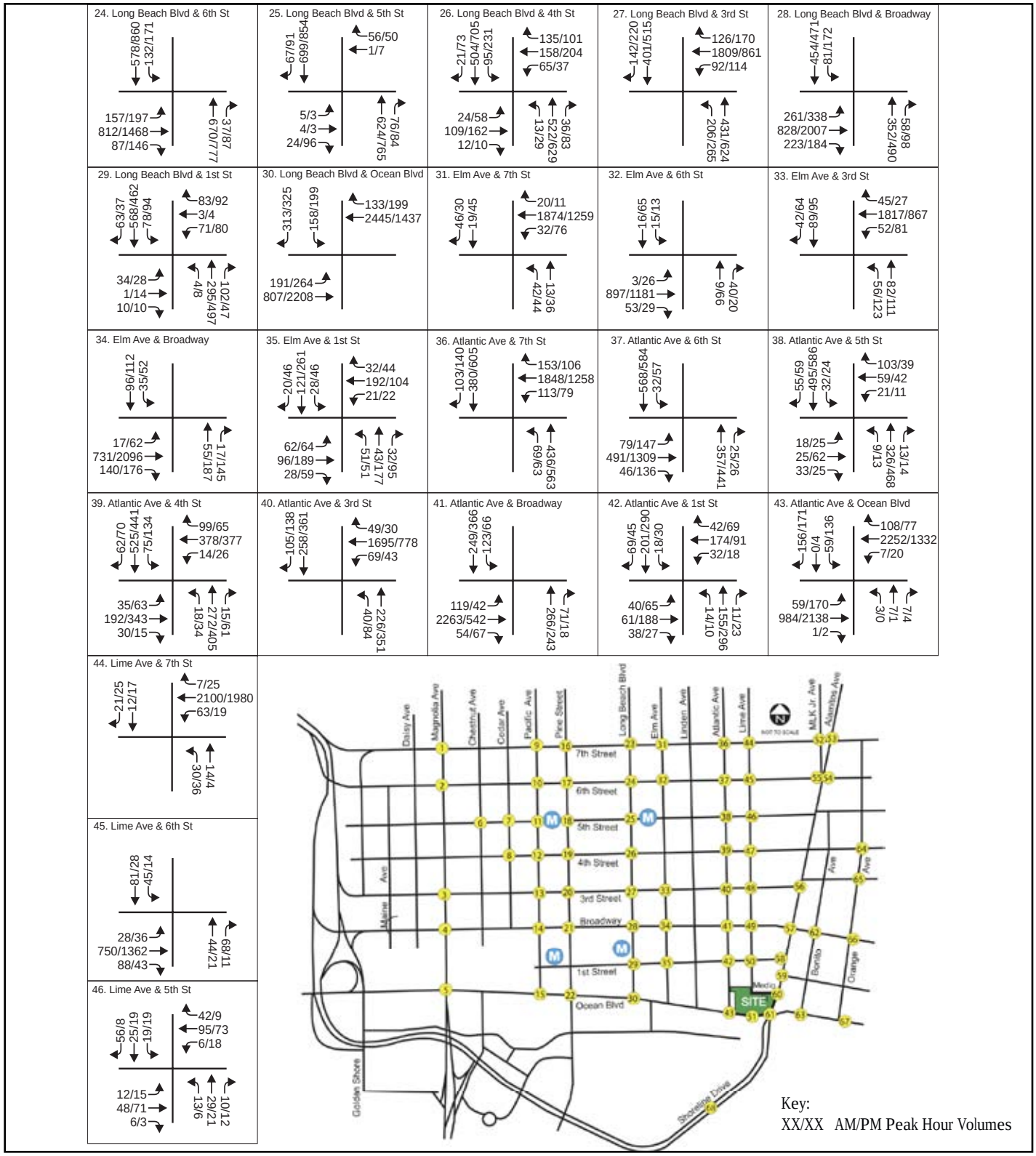
SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Forecast Year 2015 Without Project Peak Hour Intersection Volumes (Study Intersections 1 to 23)

Exhibit 5.3-6a



Source: Meyer, Mohaddes Associates, Inc., April 2006.

Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

Not to Scale

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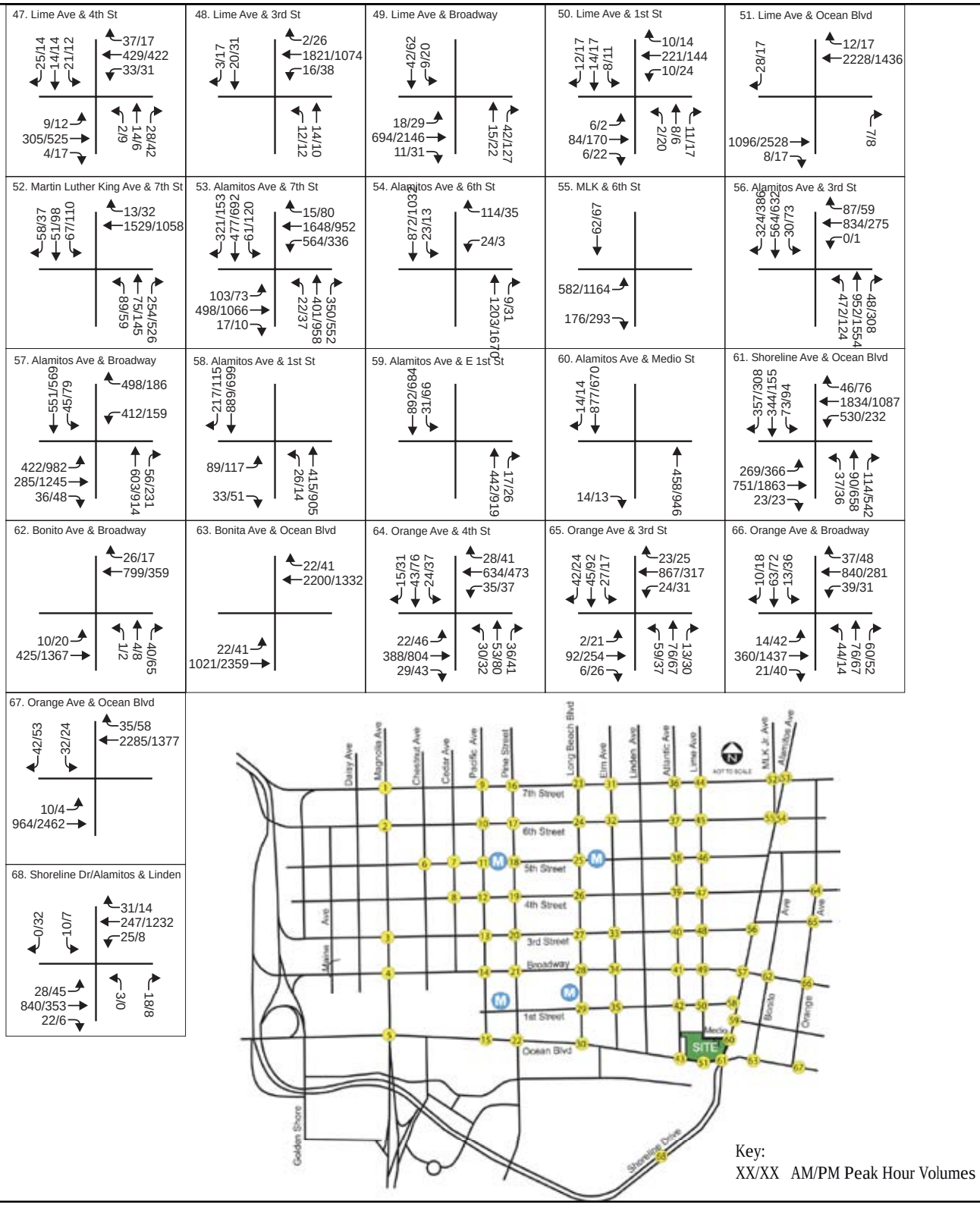
SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Forecast Year 2015 Without Project Peak Hour Intersection Volumes (Study Intersections 24 to 46)

Exhibit 5.3-6b



Source: Meyer, Mohaddes Associates, Inc., April 2006.

Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

Not to Scale

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SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Forecast Year 2015 Without Project Peak Hour Intersection Volumes (Study Intersections 47 to 68)

Exhibit 5.3-6c

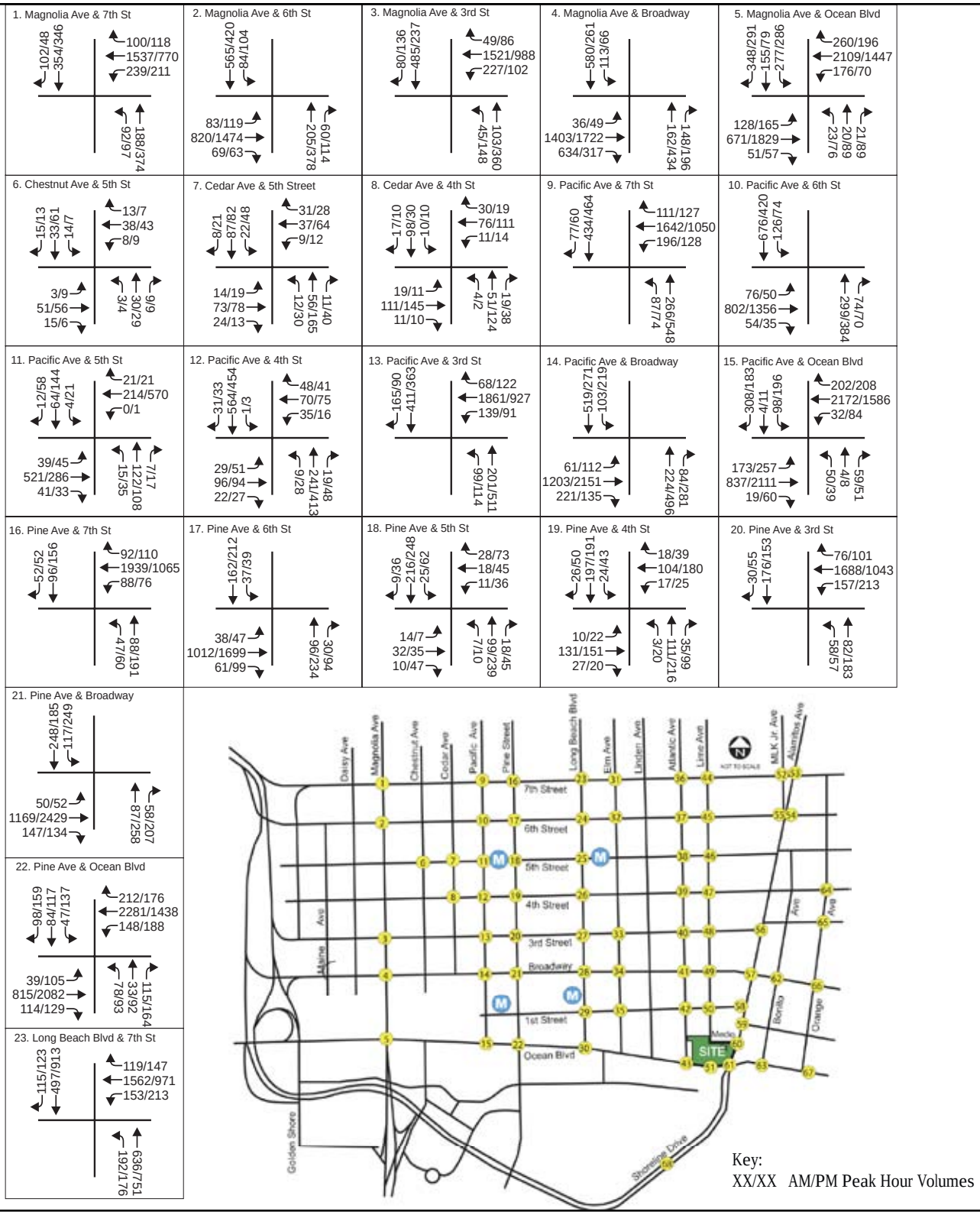
Table 5.3-7
Forecast Year 2015 Without Project Conditions Peak Hour Intersection LOS

Study Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec/veh)	V/C	LOS	Delay (sec/veh)	V/C
Magnolia Avenue & 7th Street	**E**		**0.922**	B		0.683
Magnolia Avenue & 6th Street	C		0.731	**E**		**0.904**
Magnolia Avenue & 3rd Street	C		0.736	B		0.618
Magnolia Avenue & Broadway	C		0.759	C		0.750
Magnolia Avenue & Ocean Boulevard	D		0.866	D		0.812
Chestnut Avenue & 5th Street	B	10.2		B	10.6	
Cedar Avenue & 5th Street	A		0.296	A		0.371
Cedar Avenue & 4th Street	A		0.329	A		0.361
Pacific Avenue & 7th Street	C		0.737	A		0.594
Pacific Avenue & 6th Street	A		0.536	A		0.587
Pacific Avenue & 5th Street	A		0.517	B		0.668
Pacific Avenue & 4th Street	A		0.414	A		0.404
Pacific Avenue & 3rd Street	C		0.765	A		0.575
Pacific Avenue & Broadway	B		0.608	**E**		**0.985**
Pacific Avenue & Ocean Boulevard	**E**		**0.938**	D		0.825
Pine Avenue & 7th Street	B		0.675	A		0.552
Pine Avenue & 6th Street	A		0.485	C		0.766
Pine Avenue & 5th Street	A		0.326	A		0.453
Pine Avenue & 4th Street	A		0.392	A		0.518
Pine Avenue & 3rd Street	B		0.642	A		0.481
Pine Avenue & Broadway	B		0.608	**F**		**1.180**
Pine Avenue & Ocean Boulevard	C		0.784	**E**		**0.923**
Long Beach Boulevard & 7th Street	C		0.779	C		0.738
Long Beach Boulevard & 6th Street	B		0.627	C		0.796
Long Beach Boulevard & 5th Street	A		0.410	A		0.399
Long Beach Boulevard & 4th Street	A		0.581	C		0.766
Long Beach Boulevard & 3rd Street	C		0.776	B		0.664
Long Beach Boulevard & Broadway	A		0.503	D		0.828
Long Beach Boulevard & 1st Street	A		0.371	A		0.438
Long Beach Boulevard & Ocean Boulevard	D		0.881	C		0.710
Elm Avenue & 7th Street	A		0.579	A		0.472
Elm Avenue & 6th Street	A		0.366	A		0.436
Elm Avenue & 3rd Street	B		0.638	A		0.514
Elm Avenue & Broadway	A		0.418	D		0.871
Elm Avenue & 1st Street	A		0.435	A		0.552
Atlantic Avenue & 7th Street	C		0.775	C		0.716
Atlantic Avenue & 6th Street	A		0.465	B		0.655
Atlantic Avenue & 5th Street	A		0.436	A		0.424
Atlantic Avenue & 4th Street	B		0.655	B		0.673

Table 5.3-7 [continued]
Forecast Year 2015 Without Project Conditions Peak Hour Intersection LOS

Study Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec/veh)	V/C	LOS	Delay (sec/veh)	V/C
Atlantic Avenue & 3rd Street	B		0.680	A		0.521
Atlantic Avenue & Broadway	D		0.862	A		0.379
Atlantic Avenue & 1st Street	A		0.413	A		0.454
Atlantic Avenue & Ocean Boulevard	C		0.761	B		0.695
Lime Avenue & 7th Street	**F**	**176.3**		**F**	**56.3**	
Lime Avenue & 6th Street	A		0.410	A		0.457
Lime Avenue & 5th Street	A	7.9	0.191	A	7.6	0.120
Lime Avenue & 4th Street	C	19.7		D	25.9	
Lime Avenue & 3rd Street	**F**	**66.1**		C	23.8	
Lime Avenue & Broadway	C	20.8		**F**	**773.8**	
Lime Avenue & 1st Street	B	11.3		B	11.7	
Lime Avenue & Ocean Boulevard	C	16.2		B	14.2	
Martin Luther King Avenue & 7th Street	C		0.744	C		0.774
Alamitos Avenue & 7th Street	**E**		**0.987**	**F**		**1.137**
Alamitos Avenue & 6th Street	B		0.628	C		0.706
Martin Luther King Avenue & 6th Street	A		0.360	A		0.595
Alamitos Avenue & 3rd Street	**F**		**1.246**	D		0.875
Alamitos Avenue & Broadway	**F**		**1.081**	**F**		**1.101**
Alamitos Avenue & 1st Street	A		0.568	A		0.533
Alamitos Avenue & East 1st Street	A	8.4		B	11.0	
Alamitos Avenue & Medio Street	B	12.0		B	11.0	
Alamitos Avenue/Shoreline Drive & Ocean Boulevard	**F**		**1.224**	**F**		**1.211**
Bonito Avenue & Broadway	B	12.4		D	28.9	
Bonito Avenue & Ocean Boulevard	C	23.1		B	13.3	
Orange Avenue & 4th Street	B		0.668	C		0.799
Orange Avenue & 3rd Street	A		0.538	A		0.459
Orange Avenue & Broadway	A		0.596	C		0.766
Orange Avenue & Ocean Boulevard	E		0.901	**E**		**0.944**
Shoreline Drive & Linden	A		0.373	A		0.453

LOS = level of service; V/C = volume-to-capacity ratio; N/A = not applicable; sec = seconds; veh = vehicle.
Boldface = deficient intersection operation.



Source: Meyer, Mohaddes Associates, Inc., April 2006.

Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

Not to Scale

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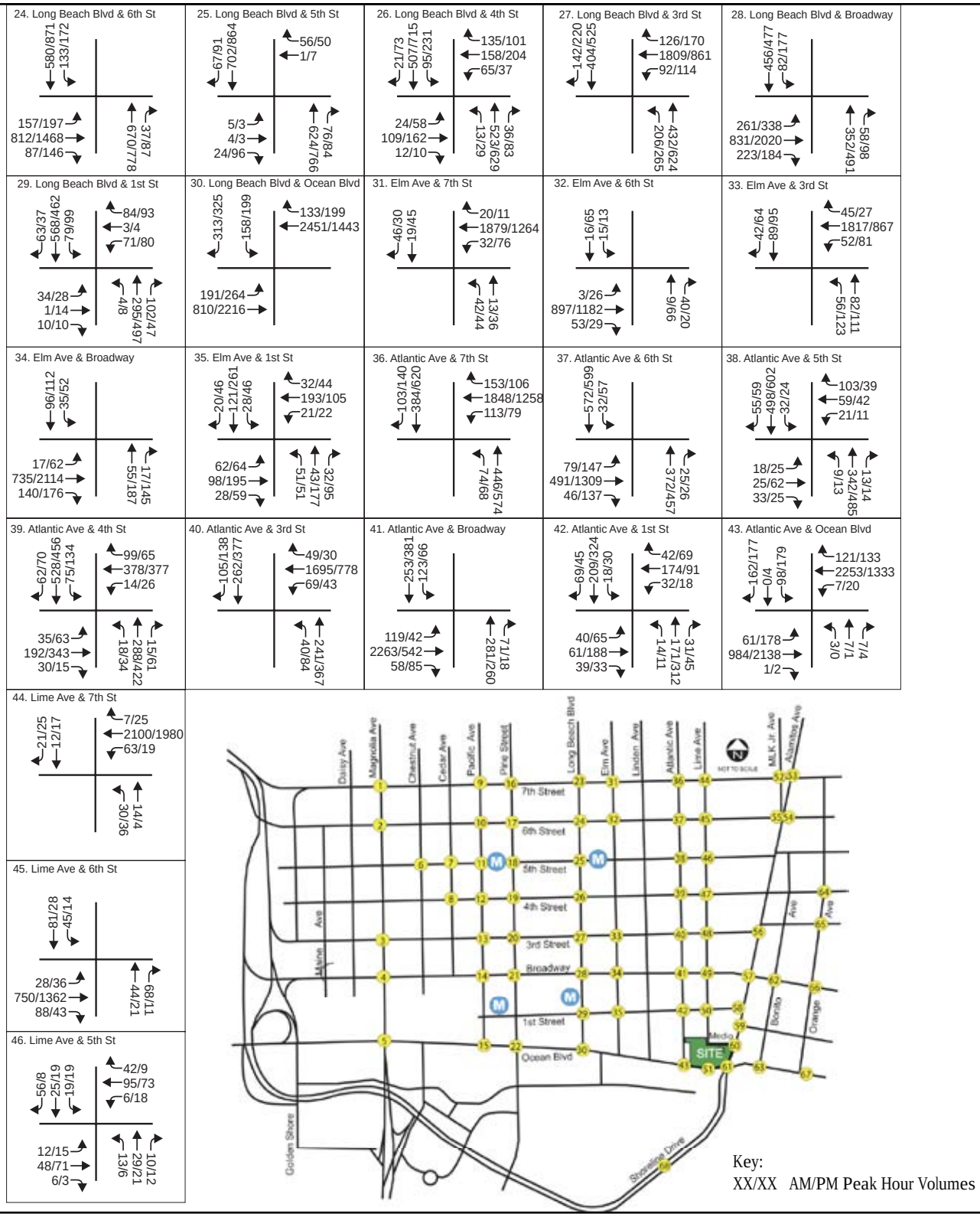
SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Forecast Year 2015 With Project Peak Hour Intersection Volumes (Study Intersections 1 to 23)

Exhibit 5.3-7a



Source: Meyer, Mohaddes Associates, Inc., April 2006.

Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

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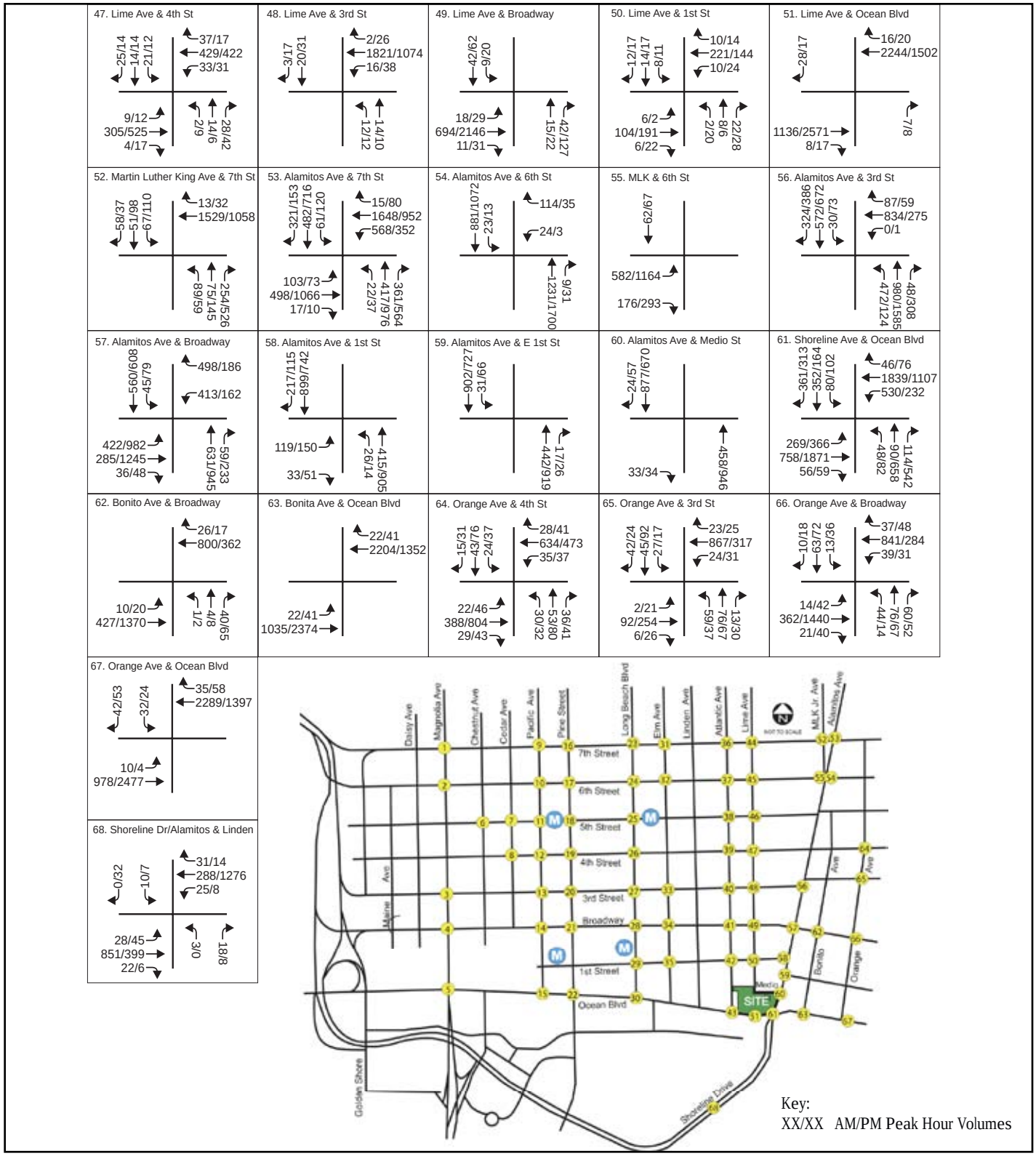
SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Forecast Year 2015 With Project Peak Hour Intersection Volumes (Study Intersections 24 to 46)

Exhibit 5.3-7b



Source: Meyer, Mohaddes Associates, Inc., April 2006.
Note: Intersections without assigned volumes are at the periphery of the study area and are not forecast to be affected by project generated trips.

Not to Scale

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SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Forecast Year 2015 With Project Peak Hour Intersection Volumes (Study Intersections 47 to 68)

Exhibit 5.3-7c

Table 5.3-8, Forecast Year 2015 With Project Conditions Peak Hour Intersection LOS, summarizes the AM and PM peak-hour LOS of the study intersections.

As shown in Table 5.3-8, 14 study intersections are forecast to operate at a deficient LOS (E or F) according to City of Long Beach performance criteria for forecast year 2015 with project conditions:

- Magnolia Avenue and 7th Street (AM peak hour only);
- Magnolia Avenue and 6th Street (PM peak hour only);
- Pacific Avenue and Broadway (PM peak hour only);
- Pacific Avenue and Ocean Boulevard (AM peak hour only);
- Pine Avenue and Broadway (PM peak hour only);
- Pine Avenue and Ocean Boulevard (PM peak hour only);
- Lime Avenue and 7th Street (AM and PM peak hours);
- Lime Avenue and 3rd Street (AM peak hour only);
- Lime Avenue and Broadway (PM peak hour only);
- Alamitos Avenue and 7th Street (AM and PM peak hours);
- Alamitos Avenue and 3rd Street (AM peak hour only);
- Alamitos Avenue and Broadway (AM and PM peak hours);
- Alamitos Avenue/Shoreline Drive and Ocean Boulevard (AM and PM peak hours); and
- Orange Avenue and Ocean Boulevard (AM and PM peak hours).

As also shown in Table 5.3-8, the following intersections would result in a significant impact for forecast year 2015 with project conditions, according to the City of Long Beach performance criteria:

- Alamitos Avenue and 7th Street (PM peak hour only); and
- Alamitos Avenue/Shoreline Drive and Ocean Boulevard (AM peak hour only).

Unsignalized Intersections

Since the City of Long Beach does not have official criteria to determine significant traffic impacts at a stop-controlled intersection, a review of the unsignalized intersections near the project was performed to determine the relative increase in delay for the purpose of significant impact determination. For forecast year 2015, there would be 12 unsignalized intersections in the study area. Of the 12 unsignalized intersections, five would operate at LOS D or worse during the AM and/or PM peak hour; refer to Table 5.3-8.

The City has plans to complete the grid of traffic signals in the downtown and the immediate vicinity at locations where volumes and/or delay meet accepted warrants for signals and/or the location of the intersections are appropriately spaced within the existing grid of streets and signals. The intersections along Lime Avenue (7th Street, 3rd Street and Broadway) are included in this plan. Based on the projected operating conditions and traffic volumes at those intersections, a traffic signal warrant analysis was completed.

Table 5.3-8
Forecast Year 2015 With Project Conditions Peak Hour Intersection LOS

Study Intersection	AM Peak Hour								PM Peak Hour							
	No Project			With Project			Change	Impact	No Project			With Project			Change	Impact
	LOS	Delay	V/C	LOS	Delay	V/C			LOS	Delay	V/C	LOS	Delay	V/C		
Magnolia Avenue & 7th Street	**E**		**0.92**	**E**		**0.92**	0.00	No	B		0.68	B		0.68	0.00	No
Magnolia Avenue & 6th Street	C		0.73	C		0.73	0.00	No	E		0.90	**E**		**0.90**	0.00	No
Magnolia Avenue & 3rd Street	C		0.74	C		0.74	0.00	No	B		0.62	B		0.62	0.00	No
Magnolia Avenue & Broadway	C		0.76	C		0.76	0.00	No	C		0.75	C		0.75	0.00	No
Magnolia Avenue & Ocean Boulevard	D		0.87	D		0.87	0.00	No	D		0.81	D		0.81	0.00	No
Chestnut Avenue & 5th Street	B	10.2		B	10.2		0.00	No	B	10.6		B	10.6		0.00	No
Cedar Avenue & 5th Street	A		0.30	A		0.30	0.00	No	A		0.37	A		0.37	0.00	No
Cedar Avenue & 4th Street	A		0.33	A		0.33	0.00	No	A		0.36	A		0.36	0.00	No
Pacific Avenue & 7th Street	C		0.74	C		0.74	0.00	No	A		0.59	A		0.59	0.00	No
Pacific Avenue & 6th Street	A		0.54	A		0.54	0.00	No	A		0.59	A		0.59	0.00	No
Pacific Avenue & 5th Street	A		0.52	A		0.52	0.00	No	B		0.67	B		0.67	0.00	No
Pacific Avenue & 4th Street	A		0.41	A		0.41	0.00	No	A		0.40	A		0.41	0.01	No
Pacific Avenue & 3rd Street	C		0.77	C		0.77	0.00	No	A		0.58	A		0.58	0.00	No
Pacific Avenue & Broadway	B		0.61	B		0.61	0.00	No	**E**		**0.99**	**E**		**0.99**	0.00	No
Pacific Avenue & Ocean Boulevard	**E**		**0.94**	**E**		**0.94**	0.00	No	D		0.83	D		0.83	0.00	No
Pine Avenue & 7th Street	B		0.68	B		0.68	0.00	No	A		0.55	A		0.55	0.00	No
Pine Avenue & 6th Street	A		0.49	A		0.49	0.00	No	C		0.77	C		0.77	0.00	No
Pine Avenue & 5th Street	A		0.33	A		0.33	0.00	No	A		0.45	A		0.45	0.00	No
Pine Avenue & 4th Street	A		0.39	A		0.39	0.00	No	A		0.52	A		0.52	0.00	No
Pine Avenue & 3rd Street	B		0.64	B		0.64	0.00	No	A		0.48	A		0.48	0.00	No
Pine Avenue & Broadway	B		0.61	B		0.61	0.00	No	**F**		**1.18**	**F**		**1.18**	0.00	No
Pine Avenue & Ocean Boulevard	C		0.78	C		0.79	0.01	No	**E**		**0.92**	**E**		**0.93**	0.01	No
Long Beach Boulevard & 7th Street	C		0.78	C		0.78	0.00	No	C		0.74	C		0.74	0.00	No
Long Beach Boulevard & 6th Street	B		0.63	B		0.63	0.00	No	C		0.80	C		0.80	0.00	No
Long Beach Boulevard & 5th Street	A		0.41	A		0.41	0.00	No	A		0.40	A		0.51	0.11	No
Long Beach Boulevard & 4th Street	A		0.58	A		0.58	0.00	No	C		0.77	C		0.77	0.00	No
Long Beach Boulevard & 3rd Street	C		0.78	C		0.78	0.00	No	B		0.66	B		0.67	0.01	No
Long Beach Boulevard & Broadway	A		0.50	A		0.51	0.01	No	D		0.83	D		0.83	0.00	No
Long Beach Boulevard & 1st Street	A		0.37	A		0.37	0.00	No	A		0.44	A		0.44	0.00	No
Long Beach Boulevard & Ocean Boulevard	D		0.88	D		0.88	0.00	No	C		0.71	C		0.71	0.00	No
Elm Avenue & 7th Street	A		0.58	A		0.58	0.00	No	A		0.47	A		0.47	0.00	No
Elm Avenue & 6th Street	A		0.37	A		0.37	0.00	No	A		0.44	A		0.44	0.00	No

Table 5.3-8 [continued]
Forecast Year 2015 With Project Conditions Peak Hour Intersection LOS

Study Intersection	AM Peak Hour								PM Peak Hour							
	No Project			With Project			Change	Impact	No Project			With Project			Change	Impact
	LOS	Delay	V/C	LOS	Delay	V/C			LOS	Delay	V/C	LOS	Delay	V/C		
Elm Avenue & 3rd Street	B		0.64	B		0.64	0.00	No	A		0.51	A		0.51	0.00	No
Elm Avenue & Broadway	A		0.42	A		0.42	0.00	No	D		0.87	D		0.88	0.01	No
Elm Avenue & 1st Street	A		0.44	A		0.44	0.00	No	A		0.55	A		0.56	0.01	No
Atlantic Avenue & 7th Street	C		0.78	C		0.78	0.00	No	C		0.72	C		0.72	0.00	No
Atlantic Avenue & 6th Street	A		0.47	A		0.47	0.00	No	B		0.66	B		0.66	0.00	No
Atlantic Avenue & 5th Street	A		0.44	A		0.44	0.00	No	A		0.42	A		0.43	0.01	No
Atlantic Avenue & 4th Street	B		0.66	B		0.66	0.00	No	B		0.67	B		0.68	0.01	No
Atlantic Avenue & 3rd Street	B		0.68	B		0.68	0.00	No	A		0.52	A		0.53	0.01	No
Atlantic Avenue & Broadway	D		0.86	D		0.87	0.01	No	A		0.38	A		0.39	0.01	No
Atlantic Avenue & 1st Street	A		0.41	A		0.42	0.01	No	A		0.45	A		0.47	0.02	No
Atlantic Avenue & Ocean Boulevard	C		0.76	C		0.77	0.01	No	B		0.70	C		0.70	0.00	No
Lime Avenue & 7th Street	**F**	**176.3**		**F**	**176.3**		0.00	No	**F**	**56.3**		**F**	**56.3**		0.00	No
Lime Avenue & 6th Street	A		0.41	A		0.41	0.00	No	A		0.46	A		0.46	0.00	No
Lime Avenue & 5th Street	A	7.9		A	7.9		0.00	No	A	7.6	0.12	A	7.6		0.00	No
Lime Avenue & 4th Street	C	19.7		C	19.7		0.00	No	D	25.9		D	25.9		0.00	No
Lime Avenue & 3rd Street	**E**	**66.1**		**F**	**66.1**		0.00	No	C	23.8		C	23.8		0.00	No
Lime Avenue & Broadway	C	20.8		C	20.8		0.00	No	**F**	**773.8**		**F**	**773.8**		0.00	No
Lime Avenue & 1st Street	B	11.3		B	11.5		0.20	No	B	11.7		B	11.9		0.20	No
Lime Avenue & Ocean Boulevard	C	16.2		N/A	N/A		N/A	No	B	14.2		N/A	N/A		N/A	No
Martin Luther King & 7th Street	C		0.74	C		0.74	0.00	No	C		0.77	C		0.77	0.00	No
Alamitos Avenue & 7th Street	**E**		**0.99**	**E**		**0.99**	0.00	No	**F**		**1.14**	**F**		**1.16**	**0.02**	**Yes**
Alamitos Avenue & 6th Street	B		0.63	B		0.64	0.01	No	C		0.71	C		0.72	0.01	No
Martin Luther King & 6th Street	A		0.36	A		0.36	0.00	No	A		0.60	A		0.60	0.00	No
Alamitos Avenue & 3rd Street	**F**		**1.25**	**F**		**1.25**	0.00	No	D		0.88	D		0.89	0.01	No
Alamitos Avenue & Broadway	**F**		**1.08**	**F**		**1.09**	0.01	No	**F**		**1.10**	**F**		**1.11**	0.01	No
Alamitos Avenue & 1st Street	A		0.57	A		0.59	0.02	No	A		0.53	A		0.56	0.03	No
Alamitos Avenue & East 1st Street	A	8.4		A	8.4		0.00	No	B	11.0		B	11.0		0.00	No
Alamitos Avenue & Medio Street	B	12.0		B	12.4		0.40	No	B	11.0		B	11.4		0.40	No
Alamitos Avenue/ Shoreline Drive & Ocean Boulevard	**F**		**1.22**	**F**		**1.24**	**0.02**	**Yes**	**F**		**1.21**	**F**		**1.22**	0.01	No
Bonito Avenue & Broadway	B	12.4		B	12.5		0.10	No	D	28.9		D	29.1		0.20	No
Bonito Avenue & Ocean Boulevard	C	23.1		C	23.2		0.10	No	B	13.3		B	13.5		0.20	No
Orange Avenue & 4th Street	B		0.67	B		0.67	0.00	No	C		0.80	C		0.80	0.00	No

Table 5.3-8 [continued]
Forecast Year 2015 With Project Conditions Peak Hour Intersection LOS

Study Intersection	AM Peak Hour								PM Peak Hour							
	No Project			With Project			Change	Impact	No Project			With Project			Change	Impact
	LOS	Delay	V/C	LOS	Delay	V/C			LOS	Delay	V/C	LOS	Delay	V/C		
Orange Avenue & 3rd Street	A		0.54	A		0.54	0.00	No	A		0.46	A		0.46	0.00	No
Orange Avenue & Broadway	A		0.60	A		0.60	0.00	No	C		0.77	C		0.77	0.00	No
Orange Avenue & Ocean Boulevard	**E**		**0.90**	**E**		**0.90**	0.00	No	**E**		**0.94**	**E**		**0.95**	0.01	No
Shoreline Drive & Linden	A		0.37	A		0.38	0.01	No	A		0.45	A		0.46	0.01	No

LOS = level of service; V/C = volume-to-capacity ratio; N/A = not applicable.
Boldface = deficient intersection operation.

Traffic Signal Warrant Analysis for Unsignalized Intersections

A traffic signal warrant analysis was completed using the methodologies and criteria set forth in the Manual on Uniform Traffic Control Devices (MUTCD) and the California Supplement to the MUTCD. The warrants consider projected traffic volumes, vehicular delay on side streets, pedestrian activity, traffic accidents, and the location and spacing of other traffic signals in the area.

The results of the warrant analysis indicate that the intersection of Lime Avenue with Broadway would meet the warrants for a traffic signal based on the projected vehicular volume. The City is preparing plans for a traffic signal at the Lime Avenue and Broadway intersection and will install this traffic signal as a part of another City Public Works project. The intersections with 3rd and 7th Streets would not meet the warrant based on volume or delay alone. However, other factors such as pedestrian activity, signal system completion, and accident prevention at these two intersections make the installation of traffic signals desirable. While the 3rd and 7th Street intersections with Lime Avenue in relation to other traffic signals, are less than the MUTCD warrants minimum distances, many of the downtown traffic signals are spaced closer than the MUTCD minimum and operate well together. In addition, providing traffic signals would allow the intersections to have protected pedestrian operations. Therefore, the traffic signals would provide good operations, with improved levels of service and safety, versus remaining unsignalized. Copies of the traffic signal warrant analyses are located Appendix 15.3.

RECOMMENDED IMPROVEMENTS

In order to reduce significant impacts to a less than significant level under forecast year 2015 with project conditions at the identified intersections and address other operational and safety concerns, the following transportation system improvements are recommended.

Previously Committed Improvements

One change to the existing street system that has been approved as a part of a City of Long Beach Public Works project is the modification of the existing Long Beach

Boulevard and 5th Street intersection. The intersection will be modified to allow full turning and through movements. The existing pedestrian traffic signal (located mid-block between 5th and 6th Streets), will be moved to this intersection to control vehicle and pedestrian movements. This change will allow for east-west through movement, as well as left turn into and out of 5th Street from Long Beach Boulevard.

Lime Avenue Corridor

Several intersections along the Lime Avenue corridor do not have traffic signals. Three of the intersections with Lime Avenue (7th Street, 3rd Street, and Broadway) currently or are projected to operate at failing levels of service. Although the proposed project does not have a significant impact at these intersections, based on the significance criteria, the City wants to install traffic signals at all of the intersections along Lime Avenue as a part of completing the traffic signal grid system in the downtown area. In order to complete this effort, the City is developing plans to install a traffic signal at the intersection of Lime Avenue with Broadway. The proposed project will be responsible for providing the traffic signals at the intersections of Lime Avenue with 7th Street and 3rd Street. The installation of traffic signals at these intersections will provide acceptable operating conditions at all three locations. A summary of the operating conditions with the proposed mitigation measures is listed in Table 5.3-9, *Year 2015 With Project Intersection Operating Conditions with Mitigation*.

Table 5.3-9
Year 2015 With Project Intersection Operating Conditions with Mitigation

Intersection	AM Peak Hour				PM Peak Hour			
	Without Improvements		With Improvements		Without Improvements		With Improvements	
	LOS	Delay or V/C	LOS	V/C	LOS	Delay or V/C	LOS	V/C
Lime Avenue & 7th Street	F	169.3*	B	0.65	F	52.6*	A	0.59
Lime Avenue & 3rd Street	E	44.1*	A	0.52	C	15.9*	A	0.39
Lime Avenue & Broadway	C	16.2*	A	0.35	F	175.8*	C	0.71
* Denotes delay value.								

Alamitos/Shoreline/Ocean Intersection

The analysis indicates that the project impact at the Alamitos/Shoreline/Ocean intersection cannot be mitigated to a less than significant level, based on the City's analysis criteria. However, traffic management and safety can be enhanced through the installation of a monitoring camera(s) at the intersection to provide real-time information on traffic conditions at the intersection and the nearby roadways. The camera would be mounted on the top of the building tower located the closest to the intersection. A fiber-optic cable would connect the camera to a junction box located at the intersection and would be connected back to the City's Traffic Management Center (TMC).

Atlantic Avenue and Ocean Boulevard Intersection

Vehicles approaching the project site from the west on Ocean Boulevard will add vehicles to the already congested eastbound left-turn lane. During the peak hours, there is a significant volume of westbound through and southbound left-turn traffic at the intersection that will conflict with these vehicles. The intersection currently has no dedicated left-turn phasing to provide gaps for traffic to turn and the existing signal equipment is not upgradeable to current operating and safety standards. Without dedicated left-turn traffic signal phasing, the eastbound-to-northbound left turns may spill back into the adjacent through lane and obstruct through traffic. In order to reduce the risk of a spillback from the turn lane, the existing traffic signal should be modernized to current safety standards by installing new traffic signal equipment, including dedicated left-turn phasing.

Year 2015 Conditions

With the approval and completion of redevelopment projects in the downtown and central area of the City, the capacity of the street system will become more intensely utilized. In 2005, only 9 of the 68 intersections were operating at LOS D or worse. In 2015, 22 intersections are expected to be operating at those levels. As the system's capacity is utilized, it will become more and more important to manage the street system in a more efficient and coordinated manner.

The project would contribute to significant impacts at two of the study area intersections: Alamitos Avenue/7th Street and Alamitos Avenue/Shoreline Drive and Ocean Boulevard. These intersections are physically constrained with existing developments located close to the street or other limitations making expansion of the roadway cross-section impractical. At these intersections, operational improvements or policy-based changes may improve overall traffic conditions, but would not affect the volume-to-capacity calculation on which the impact criteria are based. At these locations, a significant unavoidable impact may remain.

Discussions conducted with City staff along with other on-going analysis of these locations indicate that there are no feasible physical measures that could be developed at the Alamitos Avenue/7th Street intersection and the Alamitos Avenue/ Shoreline Drive and Ocean Boulevard intersection that would mitigate the project's impact to these intersections. Therefore, impacts at these locations are concluded to be significant and unavoidable.

Mitigation Measures:

TR-1 The project applicant shall provide, to the satisfaction of the City of Long Beach Traffic Engineer, a rooftop pan/tilt/zoom camera(s) and communications with power and control capability to the City of Long Beach Department of Public Works in order to monitor real-time traffic operations along the Alamitos Avenue, Shoreline Drive, and Ocean Boulevard corridors. The camera shall be located on top of the building tower located closest to the Alamitos/Shoreline/Ocean intersection.

TR-2 Lime Avenue and 7th Street. While the project would not produce a significant impact at this intersection based on the significance criteria, it would experience an increase in delay with the full development of all cumulative projects referenced in the analysis. To improve traffic operations and safety at this intersection, the project applicant shall be responsible for the installation of a traffic signal.

TR-3 Lime Avenue and 3rd Street. While the project would not produce a significant impact at this intersection based on the significance criteria, it would experience an increase in delay with the full development of all cumulative projects referenced in the analysis. In order to improve traffic operations and safety at this intersection, the project applicant shall be responsible for the installation of a traffic signal.

TR-4 Atlantic Avenue and Ocean Boulevard. In order to reduce the possibility of eastbound left-turning vehicles queuing into the adjacent through lane, the project applicant shall modernize the traffic signal to current safety standards and provide left-turn phasing at the intersection.

***Level of Significance After Mitigation*:** Significant and unavoidable impact.

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN ADVERSE IMPACTS TO THE FUNCTION OF LOS ANGELES COUNTY CONGESTION MANAGEMENT PROGRAM (CMP) FACILITIES IN THE PROJECT AREA.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: The Los Angeles County Congestion Management Program (CMP) requires that a proposed development address two major subject areas with respect to traffic impacts. These are the project's impacts on the CMP highway system and on the local and regional transit systems.

According to the CMP guidelines, the geographical area examined in a CMP traffic impact analysis (TIA) consists of the CMP monitoring locations that meet the following criteria:

- CMP intersections where the proposed project would add 50 or more trips during the AM or PM weekday peak hours (of adjacent street traffic).

- Mainline freeway-monitoring locations where the project would add more than 150 trips, in either direction, during either the AM or PM weekday peak hours.

CMP Study Area

Utilizing CMP guidelines, the following CMP study intersections are contained in the CMP study area:

- Alamitos Avenue and 7th Street; and
- Alamitos Avenue and Ocean Boulevard.

Utilizing CMP guidelines, the following CMP freeway segment is contained in the CMP study area:

- I-710 NB south of Anaheim Street; and
- I-710 SB south of Anaheim Street.

CMP Intersection Analysis

For purposes of the CMP analysis, a significant impact occurs when a proposed project increases traffic demand on a CMP facility by two percent of capacity (V/C ≥ 0.02), causing LOS F (V/C > 1.00). If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by two percent of capacity (V/C ≥ 0.02).

As indicated in Table 5.3-8, *Forecast Year 2015 With Project Peak Hour LOS*, the project would increase demand at the Alamitos/7th Street and Alamitos/Ocean Boulevard intersections by two percent (0.02) or more. Therefore, the project would have a significant CMP impact at the intersections.

City staff has studied potential improvements to the Alamitos/7th Street and Alamitos/Shoreline Drive and Ocean Boulevard intersections to determine if physical or significant operational changes could be made to accommodate additional traffic and/or provide acceptable future levels of service during peak hours. The proximity of existing development, one-way streets and spacing between intersections, limit options for providing additional capacity at the Alamitos Avenue and 7th Street intersection without significant property acquisition. At the Alamitos/Shoreline Drive and Ocean Boulevard intersection, the proximity of existing developments along Alamitos Avenue and Ocean Boulevard limit the possibility of widening the at-grade intersection without a significant loss of parking to the east of the intersection or large-scale property acquisition. Additionally, the City has determined that a grade separation of the streets (as recommended in the *General Plan*) would not be practical due to the proximity of existing uses (i.e., Villa Riviera and International Tower), as well as the number of access driveways near the intersections. Therefore, improvements along the Alamitos and Ocean corridors would be limited to physical changes within the existing right-of-way and operational or policy-based changes. Therefore, impacts would be considered significant and unavoidable.

CMP Mainline Freeway Segment Analysis

As indicated in Table 5.3-10, *Project Added Trips at CMP Freeway Monitoring Station*, the proposed project would not contribute more than the minimum threshold of 150 peak-period trips at any CMP mainline location. Based on CMP criteria, a detailed impact analysis is not warranted. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are recommended.

Level of Significance After Mitigation: Significant and unavoidable impact.

Table 5.3-10
Project Added Trips at CMP Freeway Monitoring Station

Freeway Segment	Projected Added Trips		Traffic Impact Analysis Required?	
	NB	SB	NB	SB
	Weekday AM Peak Hour			
I-710 Freeway south of Anaheim Street	41	14	No	No
	Weekday PM Peak Hour			
I-710 Freeway south of Anaheim Street	48	58	No	No

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN INADEQUATE ON AND OFF-SITE PARKING.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: An analysis of the project's parking supply and demand was completed to determine whether the project would have sufficient parking. The proposed project is proposing to provide up to 820 parking spaces. The current Long Beach parking code requires two parking spaces per residential units plus one guest parking space for every four units. In addition, the proposed project would be required to provide up to five spaces for every 1,000 square feet of commercial space.

The proposed development plan would remove approximately 18 un-metered on-street parking spaces. In addition, the City has requested the replacement of up to 70 parking spaces for the Artaban building.

As shown in Table 5.3-11, *Parking Analysis*, based on the City's parking code minus a 5 percent reduction for transit use, the project would be required to provide 839 parking spaces to satisfy the project's parking requirement. This would leave a deficit of 19 spaces (820 minus 826). With replacement of the lost on-street parking spaces and parking for the Artaban building, the required parking would increase to 937 spaces, or a deficit of 107 spaces.

Assuming that some of the residential guest parking would not be required during the day and that some of the retail/commercial uses would serve primarily a daytime clientele, the number of guest and visitor spaces could be reduced. Assuming a 50 percent shared parking rate for the retail parking (the smaller user group) the number of required spaces could be reduced by approximately 34 spaces. This would leave a total parking deficit of 73 spaces.

The project applicant would be required to complete a shared parking analysis to determine if the amount of parking proposed is sufficient. If the shared parking analysis determines that the parking proposed for the project would be sufficient, a variance would be granted in accordance with the City's Zoning Regulations. However, if the shared parking analysis determines that parking would be insufficient, resulting in a significant impact, the project shall meet the parking requirements, in accordance with the City's Zoning Regulations. Completion of the

shared parking analysis and appropriate compliance with the findings would reduce impacts to a less than significant level.

Table 5.3-11
Parking Analysis

Land Use	Size	Units	Rate	Required Spaces
Without Shared Parking				
Residential	358	D.U.'s	2 per unit	716
5% TOD Reduction				35
Subtotal				*681*
Guest Parking	358	D.U.'s	0.25 per unit	90
Commercial	13.56	000's S.F	5 per 1,000 s.f.	68
Subtotal				*839*
Supply				820
Project Shortage				(19)
Artaban Parking				(70)
On-Street Replacement				(18)
Total Shortage				**(107)**
With 50% Shared Parking				
Residential	358	D.U.'s	2 per unit	716
5% TOD Reduction				35
Subtotal				*681*
Guest Parking	358	D.U.'s	0.25 per unit	90
Commercial	13.56	000's S.F	5 per 1,000 s.f.	68
Less: 50% Shared Parking				(34)
Subtotal				*805*
Supply				820
Project Shortage				15
Artaban Parking				(70)
On-Street Replacement				(18)
Total Shortage				**(73)**
Note: Shared parking based on 50 percent of the commercial parking demand assumed to be daytime users.				

Mitigation Measures:

TR-5 Prior to site plan approval, a shared parking analysis shall be completed and approved by the City for the proposed project. If the shared parking analysis determines that the proposed parking supply would be sufficient to merit anticipated project demand, approval of a Standards Variance for parking shall be requested by the applicant. If the shared parking analysis determines the proposed parking would be insufficient to meet project demand, the project shall meet the parking requirements established by the City's Zoning Regulations.

Level of Significance After Mitigation: Less Than Significant Impact.

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN ADVERSE IMPACTS TO PUBLIC TRANSPORTATION WITHIN THE PROJECT AREA.**

Level of Significance Prior to Mitigation: Less Than Significant Impact.

Impact Analysis: Based on the projected additional ridership generated by the proposed project and discussions with LBT officials, the project would not result in significant impacts to public transportation within the area. LBT would monitor transit conditions and adjust/coordinate services as needed to address changes in demand. To encourage the use of public transit and non-auto trips, the project would include transportation demand management (TDM) features outlined in the City's TDM policies including, where appropriate, bicycle parking, safe bicycle access to streets and parking, efficient pedestrian access and pedestrian-friendly access to area transit facilities. The City's Bicycle Master Plan includes on-street bicycle lanes along Broadway, 3rd Street, Magnolia, Pacific Avenue and Alamitos Avenue. Additionally, bicycle-parking facilities are proposed along several streets and the existing downtown "Bike Station" provides access to bicycles and services. Development of the project site would be required to coordinate with area transit providers to accommodate and encourage transit use by residents and patrons. For non-residential sites, appropriate programs and facilities would be included to encourage car and van pooling, provide information on transportation alternatives and encourage trip reduction strategies in accordance with the City's TDM policies for non-residential development. Compliance with the City's TDM ordinance would reduce impacts to a less than significant level.

Mitigation Measures: No mitigation measures are recommended.

Level of Significance After Mitigation: Not applicable.

5.3.5 CUMULATIVE IMPACTS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE TRAFFIC AND CIRCULATION IMPACTS.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: As noted previously, forecast year 2015 traffic volumes (without project) were derived by applying an annual growth rate factor to existing traffic volumes for forecast ambient growth in the project vicinity. Additionally, trips were added to account for the related cumulative projects outlined in Section 4.0, *Basis of Cumulative Analysis*, as identified by City staff.

Table 5.3-7 indicates that, with ambient growth and the addition of related cumulative projects, 14 intersections (five of which are currently operating at LOS E or F) are projected to operate at a deficient LOS (LOS E or F) according to City of Long Beach performance criteria for forecast year 2015 without project conditions.

- Magnolia Avenue and 7th Street (AM peak hour only);

- Magnolia Avenue and 6th Street (PM peak hour only);
- Pacific Avenue and Broadway (PM peak hour only);
- Pacific Avenue and Ocean Boulevard (AM peak hour only);
- Pine Avenue and Broadway (PM peak hour only);
- Pine Avenue and Ocean Boulevard (PM peak hour only);
- Lime Avenue and 7th Street (AM and PM peak hours);
- Lime Avenue and 3rd Street (AM peak hour only);
- Lime Avenue and Broadway (PM peak hour only);
- Alamitos Avenue and 7th Street (AM and PM peak hours);
- Alamitos Avenue and 3rd Street (AM peak hour only);
- Alamitos Avenue and Broadway (AM and PM peak hours);
- Alamitos Avenue/Shoreline Drive and Ocean Boulevard (AM and PM peak hours); and
- Orange Avenue and Ocean Boulevard (AM and PM peak hours).

As shown in Table 5.3-8, 14 study intersections are forecast to operate at a deficient LOS (LOS E or F) according to City of Long Beach performance criteria for forecast year 2015 with project conditions:

- Magnolia Avenue and 7th Street (AM peak hour only);
- Magnolia Avenue and 6th Street (PM peak hour only);
- Pacific Avenue and Broadway (PM peak hour only);
- Pacific Avenue and Ocean Boulevard (AM peak hour only);
- Pine Avenue and Broadway (PM peak hour only);
- Pine Avenue and Ocean Boulevard (PM peak hour only);
- Lime Avenue and 7th Street (AM and PM peak hours);
- Lime Avenue and 3rd Street (AM peak hour only);
- Lime Avenue and Broadway (PM peak hour only);
- Alamitos Avenue and 7th Street (AM and PM peak hours);
- Alamitos Avenue and 3rd Street (AM peak hour only);
- Alamitos Avenue and Broadway (AM and PM peak hours);
- Alamitos Avenue/Shoreline Drive and Ocean Boulevard (AM and PM peak hours); and
- Orange Avenue and Ocean Boulevard (AM and PM peak hours).

As also shown in Table 5.3-8, the following intersections would result in a significant impact for forecast year 2015 with project conditions, according to the City of Long Beach performance criteria:

- Alamitos Avenue and 7th Street (PM peak hour only); and
- Alamitos Avenue/Shoreline Drive and Ocean Boulevard (AM peak hour only).

These intersections are physically constrained with existing developments located close to the street or other limitations making expansion of the roadway cross-section impractical. At these locations, operation improvements or policy-based changes may improve overall traffic conditions, but would not improve the volume-to-capacity ratio, based on the City's performance criteria. MMA's discussions with City staff have determined that there are no feasible mitigation measures to reduce impacts below a threshold of significance. Therefore, cumulative impacts at the two intersections would be significant and unavoidable.

The Alamitos Avenue/7th Street and Alamitos Avenue/Ocean Boulevard intersections have also been identified as CMP study facilities. As indicated in Table 5.3-8, the addition of project-generated trips on the CMP intersections would result in a significant impact, according to the CMP performance criteria for forecast year 2015 with project conditions. Therefore, project implementation would result in significant cumulative traffic impacts to CMP facilities.

Regional programs such as the Long Range Transportation Plan (LRTP) prepared by the Los Angeles County Metropolitan Transportation Authority (MTA), the Regional Transportation Plan (RTP), the Regional Transportation Improvement Plan (RTIP) prepared by the Southern California Association of Governments (SCAG), and the Statewide Transportation Improvement Plan (STIP) prepared by the California Department of Transportation (Caltrans) are all intended to address the cumulative mobility needs of Los Angeles County. The LRTP recommends HOV, transit, and demand management improvements and identified funding sources and implementation schedules. The RTP forecasts long-range transportation demands for the five-county SCAG region and identifies policies, actions, and funding sources to accommodate these demands, including construction of new transportation facilities, transportation system management strategies, transportation demand management strategies, and land use strategies. The RTP and STIP are programming documents listing all of the funded/programmed regional improvements.

However, additional measures to address significant cumulative conditions are beyond the ability of any individual project to implement and, as such, the project's incremental impacts on cumulative conditions would be considered significant and unavoidable.

Mitigation Measures: Refer to mitigation measures TR-1 through TR-4. No additional mitigation measures are recommended.

Level of Significance After Mitigation: Significant and unavoidable impact.

5.3.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed Shoreline Gateway project, along with other cumulative projects, would result in significant and unavoidable impacts to the Alamitos Avenue/7th Street and Alamitos Avenue/Shoreline Drive and Ocean Boulevard intersections, based on the City's performance criteria. Additionally, Alamitos Avenue/7th Street and Alamitos Avenue/Shoreline Drive and Ocean Boulevard are CMP study intersections and would result in significant and unavoidable impacts, based on CMP performance criteria. All other traffic impacts can be mitigated to less than significant levels.

If the City of Long Beach approves the Shoreline Gateway Project, the City shall be required to adopt findings in accordance with Section 15091 of the *CEQA Guidelines* and prepare a Statement of Overriding Considerations in accordance with Section 15093 of the *CEQA Guidelines*.

5.4 AIR QUALITY

This section focuses on potential short-term air quality impacts associated with project construction activities and studies long-term local and regional air quality impacts associated with the project operation. Mitigation is recommended to avoid or lessen the significance of impacts.

Information in this section is based primarily on the *CEQA Air Quality Handbook* prepared by the South Coast Air Quality Management District (SCAQMD), April 1993 (as revised through November 1993); Air Quality Data (California Air Resources Board [CARB] 2001 through 2005); the *SCAQMD Final Air Quality Management Plan* (August 2003); and the *Traffic Impact Analysis* (April 2006), prepared by Meyer, Mohaddes and Associates; refer to Appendix 15.4, *Air Quality Data*, for the assumptions used in this analysis.

5.4.1 REGIONAL SETTING

SOUTH COAST AIR BASIN

Geography

The City of Long Beach (City) is located in the South Coast Air Basin (Basin), a 10,743-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County; refer to Exhibit 5.4-1, *California Air Basins*.

The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall and topography all affect the accumulation and/or dispersion of air pollutants throughout the Basin.

Climate

The general region lies in the semipermanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The climate consists of a semiarid environment with mild winters, warm summers, moderate temperatures and comfortable humidity. Precipitation is limited to a few winter storms. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms or Santa Ana winds.

The average annual temperature varies little throughout the Basin, averaging 75 degrees Fahrenheit (°F). However, with a less-pronounced oceanic influence, the eastern inland portions of the Basin show greater variability in annual minimum and maximum temperatures. All portions of the Basin have had recorded temperatures over 100°F in recent years. January is usually the coldest month at all locations, while July and August are usually the hottest months.

SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

California Air Basins

06/06 • JN 10-104514

Exhibit 5.4-1

Although the Basin has a semi-arid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature. Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the Basin. Precipitation in the Basin is typically 9 to 14 inches annually and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the Basin.

The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above sea level, the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet, the terrain prevents the pollutants from entering the upper atmosphere, resulting in a settlement in the foothill communities. Below 1,200 feet, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the day. Mixing heights for inversions are lower in the summer and more persistent, being partly responsible for the high levels of ozone observed during summer months in the Basin. Smog in southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods of time, allowing them to form secondary pollutants by reacting with sunlight. The Basin has a limited ability to disperse these pollutants due to typically low wind speeds.

The area in which the project is located offers clear skies and sunshine, but it is still susceptible to air inversions. This traps a layer of stagnant air near the ground where it is further loaded with pollutants. These inversions cause haziness, which is caused by moisture, suspended dust and a variety of chemical aerosols emitted by trucks, automobiles, furnaces and other sources.

5.4.2 REGULATORY FRAMEWORK

Regulatory oversight for air quality in the Basin rests with the South Coast Air Quality Management District (SCAQMD) at the regional level, the California Air Resources Board (CARB) at the State level and the U.S. Environmental Protection Agency (EPA) Region IX office at the Federal level.

FEDERAL

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) is responsible for implementing the Federal Clean Air Act (FCAA), which was first enacted in 1955 and amended numerous times after. The FCAA established Federal air quality standards known as the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants are ozone

(O_3), carbon monoxide (CO), nitrogen dioxide (NO_2, which is a form of nitrogen oxides [NO_x]), sulfur dioxide (SO_2, which is a form of sulfur oxides [SO_x]), particulate matter less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$, respectively) and lead (Pb); refer to Table 5.4-1, *National and California Ambient Air Quality Standards*.

EPA designates areas within the nation as either attainment or nonattainment for each criteria pollutant based on whether the NAAQS have been achieved. An area is designated as nonattainment for a pollutant if air quality data show that the NAAQS for the pollutant was violated at least once during the previous three calendar years. Exceedances affected by highly irregular or infrequent events are not considered violations of a Federal standard, and are not used as a basis for designating areas as nonattainment. The Basin is designated as a Federal nonattainment area for O_3, CO, PM_{10} and $PM_{2.5}$. Ozone is designated as severe for the 8-hour average while PM_{10} is designated as serious nonattainment. $PM_{2.5}$ and CO is simply nonattainment. The Basin has technically achieved attainment with CO levels all below the Federal standard, but is still in the process of being redesignated by the EPA. The air Basin is also designated as an attainment area for NO_2, SO_2 and Pb; refer to Table 5.4-1 for Federal attainment status.

The FCAA also specifies future dates for achieving compliance with the NAAQS and mandates that states develop State Implementation Plans (SIPs) to manage the attainment, maintenance and enforcement of the NAAQS. SIPs provide detailed descriptions of the programs a state will use to carry out its responsibilities under the FCAA. SIPs are collections of the regulations used by a state to reduce air pollution. A SIP shows how a state would meet the NAAQS by its attainment dates. The FCAA requires that EPA approve each SIP.

STATE

California Air Resources Board

The California Air Resources Board (CARB) administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 5.4-1, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide and sulfates. The CCAA, which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMP's also serve as the basis for preparation of the SIP for the State of California.

Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data show that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard, and

Table 5.4-1
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[4]	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m³)	**Extreme Nonattainment**	NA[5]	NA[5]
	8 Hours	0.07 ppm (137 μg/m³)	Unclassified	0.08 ppm (157 μg/m³)	**Severe Nonattainment**
Particulate Matter (PM_{10})	24 Hours	50 μg/m³	**Nonattainment**	150 μg/m³	**Serious Nonattainment**
	Annual Arithmetic Mean	20 μg/m³	**Nonattainment**	50 μg/m³	**Serious Nonattainment**
Fine Particulate Matter ($PM_{2.5}$)	24 Hours	No Separate State Standard		65 μg/m³	**Nonattainment**
	Annual Arithmetic Mean	12 μg/m³	**Nonattainment**	15 μg/m³	**Nonattainment**
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 mg/m³)	Attainment	9 ppm (10 mg/m³)	**Nonattainment6[6]**
	1 Hour	20 ppm (23 mg/m³)	Attainment	35 ppm (40 mg/m³)	**Nonattainment6[6]**
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	N/A	NA	0.053 ppm (100 μg/m³)	Attainment
	1 Hour	0.25 ppm (470 μg/m³)	Attainment	N/A	NA
LEAD (PB)	30 days average	1.5 μg/m³	Attainment	N/A	NA
	Calendar Quarter	N/A	NA	1.5 μg/m³	Attainment
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	N/A	NA	0.030 ppm (80 μg/m³)	Attainment
	24 Hours	0.04 ppm (105 μg/m³)	Attainment	0.14 ppm (365 μg/m³)	Attainment
	3 Hours	N/A	NA	N/A	Attainment
	1 Hour	0.25 ppm (655 μg/m³)	Attainment	N/A	NA
Visibility-Reducing Particles	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	**No Federal Standards**	
Sulfates	24 Hour	25 μg/m3	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m3)	Unclassified		

μg/m³ = micrograms per cubic meter; ppm = parts per million; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable.

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter-PM_{10} and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. In 1990, CARB identified vinyl chloride as a toxic air contaminant, but determined that there was not sufficient available scientific evidence to support the identification of a threshold exposure level. This action allows the implementation of health-protective control measures at levels below the 0.010 ppm ambient concentration specified in the 1978 standard.
2. National standards (other than ozone, particulate matter and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. EPA also may designate an area as *attainment/unclassifiable*, if: (1) it has monitored air quality data that show that the area has not violated the ozone standard over a three-year period; or (2) there is not enough information to determine the air quality in the area. For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over the three years, are equal to or less than the standard. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentration is expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5. The Federal 1-hour ozone standard was revoked on June 15, 2005.
6. Technically, the Basin is in attainment for CO, however, has not be designated by EPA.

Source: California Air Resource Control Board and U.S. Environmental Protection Agency, 2005.

are not used as a basis for designating areas as nonattainment. Under the CCAA, the Basin is designated as a nonattainment area for O_3, PM_{10} and $PM_{2.5}$. The Basin is designated as an attainment area for CO, NO_2, SO_2 and Pb; refer to Table 5.4-1. Similar to the FCAA, all areas designated as nonattainment under the CCAA are required to prepare plans showing how the area would meet the CAAQS by its attainment dates. The AQMP is the plan for improving air quality in the region.

South Coast Air Quality Management District

The proposed project is located in the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD has jurisdiction of 10,743 square miles, which includes counties of Orange, Riverside, San Bernardino, the non-desert portions of Los Angeles, and the portions of the Salton Sea Air Basin and Mojave Desert Air Basin. The SCAQMD is one of 35 air quality management districts that have prepared AQMPs to accomplish a five-percent annual reduction in emissions. The most recent AQMP was adopted in 2003.

The 2003 AQMP proposes policies and measures to achieve Federal and State standards for improved air quality in the Basin and those portions of the Salton Sea Air Basin (formerly named the Southeast Desert Air Basin) that are under SCAQMD jurisdiction. The AQMP requires emissions-reducing activities, control technology for existing sources; control programs for area sources and indirect sources; a SCAQMD permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions; transportation control measures; and demonstration of compliance with the CARB's established reporting periods of compliance with air quality goals. The 2003 AQMP is consistent with and builds upon the approaches taken in the 1997 AQMP and the 1999 Amendments to the Ozone SIP for the Basin for the attainment of the Federal ozone air quality standard. However, the 2003 AQMP points to the urgent need for additional emission reductions (beyond those incorporated in the 1997/99 Plan) to offset increased emission estimates from mobile sources and to meet all Federal criteria pollutant standards within the time frames allowed under the FCAA.

In addition to the AQMP and its rules and regulations, the SCAQMD published the *CEQA Air Quality Handbook* (Handbook). The SCAQMD Handbook provides guidance to assist local government agencies and consultants in developing the environmental documents required by CEQA. With the help of the Handbook, local land use planners and other consultants are able to analyze and document how proposed and existing projects affect air quality and should be able to fulfill the requirements of the CEQA review process. The SCAQMD is in the process of developing an *Air Quality Analysis Guidance Handbook* to replace the current Handbook approved by the SCAQMD Governing Board in 1993.

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and serves as a forum for regional issues relating to transportation the economy, community development and the environment. SCAG serves as the Federally designated metropolitan planning organization (MPO) for the southern

California region and is the largest MPO in the United States. With respect to air quality planning, SCAG has prepared the Regional Comprehensive Plan and Guide (RCPG) for the region, which includes Growth Management and Regional Mobility chapters that form the basis for the land use and transportation control portions of the AQMP. SCAG is responsible under the FCAA for determining conformity of projects, plans and programs with the SCAQMD AQMP. As indicated in the SCAQMD Handbook, there are two main indicators of consistency:

- The project would not increase the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP; and
- The project would not exceed the AQMP's assumptions for 2020 or increments based on the year of project buildout and phase.

5.4.3 LOCAL AMBIENT AIR QUALITY

AIR QUALITY MONITORING STATIONS

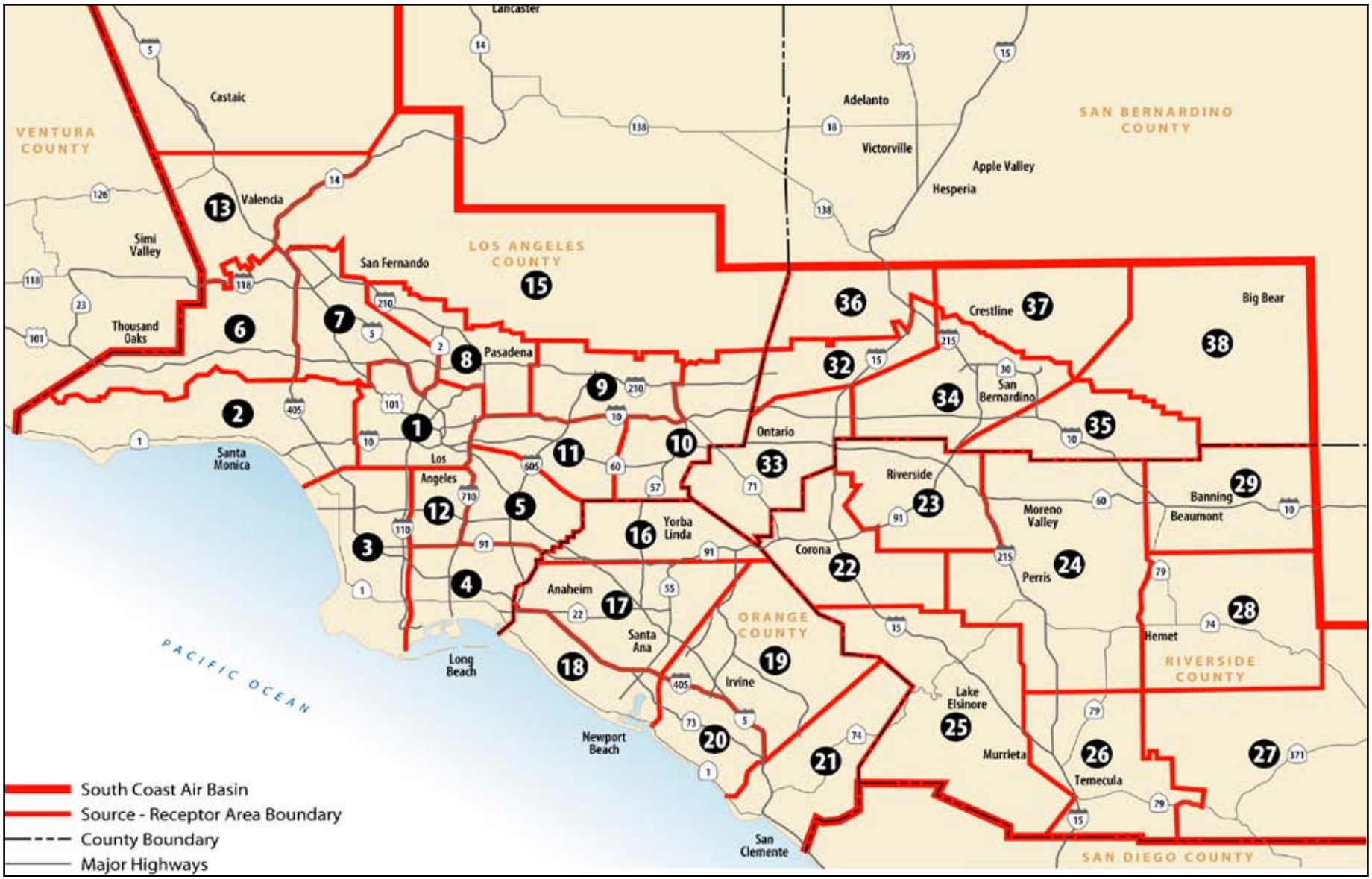
The SCAQMD monitors air quality at 37 monitoring stations throughout the Basin. Each monitoring station is located within a Source Receptor Area (SRA). The communities within an SRA are expected to have similar climatology and ambient air pollutant concentrations. The proposed project is in the City of Long Beach, which is located in SRA 4; refer to Exhibit 5.4-2, *Source Receptor Map*. The monitoring stations usually measure pollutant concentrations ten feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations.

POLLUTANTS MEASURED

The following air quality information briefly describes the various types of pollutants monitored at the North Long Beach Monitoring Station. This local monitoring station is located nearest to the project site. Air quality data from 2001 through 2005 is provided in Table 5.4-2, *Local Air Quality Levels*.

Carbon Monoxide. Carbon monoxide (CO) is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions.

Carbon monoxide replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies) and patients with chronic hypoxemia (oxygen deficiency), as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of carbon monoxide. Exposure to high levels of carbon monoxide can slow reflexes and cause drowsiness, and result in death in confined spaces at very high concentrations.



Not to Scale

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06/06 • JN 10-104514

Exhibit 5.4-2

SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Source Receptor Map

Table 5.4-2
Local Air Quality Levels

Pollutant	Primary Standard		Year	Maximum[1, 2] Concentration	Number of Days State/Federal Std. Exceeded
	California	Federal			
Carbon Monoxide (CO)	9.0 ppm for 8 hours	9 ppm for 8 hours	2001 2002 2003 2004 2005	4.74 ppm 4.56 4.66 3.36 3.51	0/0 0/0 0/0 0/0 0/0
Ozone (O_3) (1-Hour)	0.09 ppm for 1 hour	NA	2001 2002 2003 2004 2005	0.09 ppm 0.08 0.09 0.09 0.09	0/NA 0/NA 1/NA 0/NA 0/NA
Ozone (O_3) (8-Hour)	0.07ppm for 8 hours	0.08ppm for 8 hours	2001 2002 2003 2004 2005	0.07 ppm 0.07 0.07 0.07 0.07	NM/0 NM/0 NM/0 NM/0 NM/0
Nitrogen Dioxide (NO_2)	0.25 ppm for 1 hour	0.053 ppm annual average	2001 2002 2003 2004 2005	0.11 ppm 0.10 0.12 0.08 0.08	0/NA 0/NA 0/NA 0/NA 0/NA
Sulfur Dioxide (SO_2)	0.25 ppm for 1 hour	0.14 ppm for 24 hours or 0.03 ppm annual arithmetic mean	2001 2002 2003 2004 2005	0.01 ppm 0.01 0.01 0.01 0.01	0/0 0/0 0/0 0/0 0/0
Particulate Matter (PM_{10})[3,4]	50 µg/m^3 for 24 hours	150 µg/m^3 for 24 hours	2001 2002 2003 2004 2005	91.0 µg/m^3 74.0 63.0 72.0 NM	10/0 5/0 4/0 4/0 NM/NM
Fine Particulate Matter ($PM_{2.5}$)[4]	No Separate State Standard	65 µg/m^3 for 24 hours	2001 2002 2003 2004 2005	72.9 µg/m^3 62.7 115.2 66.6 53.8	NM/0 NM/0 NM/3 NM/1 NM/0

ppm = parts per million
µg/m^3 = micrograms per cubic meter
NM = Not Measured
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less
NA = Not Applicable

Notes:
1. Maximum concentration is measured over the same period as the California Standard.
2. Measurements taken at the North Long Beach Monitoring Station located at 3648 N. Long Beach Boulevard, Long Beach, California.
3. PM_{10} exceedances are based on state thresholds established prior to amendments adopted on June 20, 2002.
4. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Source: California Air Resources Board, *ADAM Air Quality Data Statistics*, http://www.arb.ca.gov/adam/welcome.html

State and Federal standards were not exceeded between 2001 and 2005 at the North Long Beach Monitoring Station.

Ozone. Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" ozone layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

"Bad" ozone is a photochemical pollutant, and needs volatile organic compounds (VOCs), NO_x, and sunlight to form; therefore, VOCs and NO_x are ozone precursors. VOCs and NO_x are emitted from various sources throughout the City. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While ozone in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone (in the troposphere) can adversely affect the human respiratory system and other tissues. Ozone is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of ozone. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in southern California can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue as well as chest pain, dry throat, headache and nausea.

The 1-hour O_3 levels ranged from 0.09 parts per million (ppm) to 0.08 ppm from 2001 to 2005 at the North Long Beach Monitoring Station. The State ozone standard is 0.09 parts per million (ppm), averaged over one hour, and was exceeded once between 2000 and 2005. The Federal Standard for O_3 was revoked as of June 5, 2005 and therefore does not apply. The 8-hour O_3 levels between 2001 and 2005 averaged 0.07 ppm at the North Long Beach Monitoring Station. The State 8-hour standard for O_3 is 0.07, and was recently approved by CARB on April 28, 2005. The exceedences for the State standards have not yet been provided by CARB. The Federal standard for O_3 is 0.12 ppm, averaged over one hour, and was not exceeded between 2001 and 2005.

Nitrogen Dioxide. Nitrogen oxides (NO_x) are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone, and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_x) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries and other industrial operations).

NO_2 can irritate and damage the lungs, and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_2 concentrations that are typically much higher than those normally found in the ambient air, may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

From 2001 through 2005, there were no exceedances of the State standard of 0.25 ppm over one hour at the North Long Beach Monitoring Station. For NO_2, the Basin is designated as being in attainment under both State and Federal standards.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, and is a mixture of materials that can include smoke, soot, dust, salt, acids and metals. Particulate matter also forms when gases emitted from motor vehicles and industrial sources undergo chemical reactions in the atmosphere. Some particles are large or dark enough to be seen as soot or smoke; others are so small that they can be detected only with an electron microscope. PM_{10} particles are less than or equal to 10 microns in aerodynamic diameter; $PM_{2.5}$ particles are less than or equal to 2.5 microns in aerodynamic diameter, and are a subset (portion) of PM_{10}.

In the western United States, there are sources of PM_{10} in both urban and rural areas. PM_{10} and $PM_{2.5}$ are emitted from stationary and mobile sources, including diesel trucks and other motor vehicles, power plants, industrial processing, wood-burning stoves and fireplaces, wildfires, dust from roads, construction, landfills, agriculture and fugitive windblown dust.

PM_{10} and $PM_{2.5}$ particles are small enough to be inhaled into, and lodge in, the deepest parts of the lung. Health problems begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, coughing, bronchitis and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. Non-health-related effects include reduced visibility and soiling of buildings.

The State standard for PM_{10} is 50 micrograms per cubic meter ($\mu g/m^3$) averaged over 24 hours; this standard was exceeded 33 days at the North Long Beach Monitoring Station between 2001 and 2004. Measurements were not recorded for 2005. The Federal standard for PM_{10} is 150 $\mu g/m^3$ averaged over 24 hours; this standard was not exceeded between 2001 and 2004.

On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Basin as a nonattainment area for Federal $PM_{2.5}$ standards. On June 20, 2002, CARB adopted amendments for statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health

impacts associated with particulate matter exposure was determined to be large and wide-ranging. For $PM_{2.5}$, the Federal standard is 65 $\mu g/m^3$ over 24 hours. There is no separate State standard for $PM_{2.5}$. At the North Long Beach Monitoring Station, there were four exceedances between 2001 and 2005.

Sulfur Dioxide. Sulfur dioxide (SO_2) is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with sulfur oxides (SO_X) and lead (Pb). Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. Sulfur dioxide levels in all areas of the Basin do not exceed Federal or State standards, and the Basin is designated as in attainment for both State and Federal SO_2 standards.

SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than is the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The following types of people are most likely to be adversely affected by air pollution, as identified by CARB: children under 14, elderly over 65, athletes and people with cardiovascular and chronic respiratory diseases. Locations that may contain a high concentration of these sensitive population groups are called sensitive receptors and include residential areas, hospitals, day-care facilities, elder-care facilities, elementary schools and parks.

Existing sensitive receptors located in the project vicinity include multi-family residential homes. Located south of the proposed project are the Villa Riviera, the International Tower, the Long Beach Tower, Harbor Place and the Aqua building (west of Linden), which are all high-rise residential uses. Directly west of and adjacent to the project site is the Artaban building, another residential use. North of Medio Street and east of Lime Avenue are lower density multi-family residential uses. North of the project site between Lime Avenue and the alley are also lower density multi-family residential uses. West of the alley and east of Atlantic Ave are hotel uses. Office and hotel uses are located west of Atlantic Avenue. There are also multi-family residential uses east of Alamitos, north of the Shell gas station, on the corner of Alamitos Avenue and Ocean Boulevard.

In addition to the residential homes directly adjacent to the proposed project, other sensitive receptors such as schools and hospitals are located within the vicinity. The Benjamin Franklin, Charles Lindbergh and Herbert Hoover middle schools and the Montessori School are all located less than a mile away from the project. Hospitals within the area are the Long Beach Memorial Medical Center and the St. Mary Medical Center.

5.4.4 SIGNIFICANCE THRESHOLD CRITERIA

CEQA SIGNIFICANCE CRITERIA

Appendix G of the *CEQA Guidelines* includes questions relating to air quality impacts. Accordingly, a project may create a significant environmental impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Create objectionable odors affecting a substantial number of people; refer to Section 10.0, *Effects Found Not To Be Significant*.

SCAQMD THRESHOLDS

Under CEQA, the SCAQMD is an expert commenting agency on air quality and related matters within its jurisdiction or impacting its jurisdiction. Under the FCAA, the SCAQMD has adopted Federal attainment plans for ozone and PM_{10}. The SCAQMD reviews projects to ensure that they would not:

- Cause or contribute to any new violation of any air quality standard;
- Increase the frequency or severity of any existing violation of any air quality standard;
- Delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any Federal attainment plan; or
- Exceed the growth assumptions utilized in preparing the AQMP.

The SCAQMD Handbook provides significance thresholds for both construction and operation of projects within its jurisdictional boundaries. Exceedance of the SCAQMD thresholds could result in a potentially significant impact; however, ultimately the lead agency determines the thresholds of significance for impacts. If the project proposes development in excess of the established thresholds, as outlined in Table 5.4-3, *SCAQMD Air Emission Thresholds,* a significant air quality impact may occur and additional analysis is warranted to fully assess the significance of impacts.

Table 5.4-3
SCAQMD Air Emissions Thresholds

Phase	Pollutant (lbs/day)				
	ROG	NO_X	CO	SO_X	PM_{10}
Construction	75	100	550	150	150
Operational	55	55	550	150	150
ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter; up to 10 microns.					
Source: SCAQMD, *CEQA Air Quality Handbook*, November 1993.					

In addition, the significance of localized project impacts depends on whether ambient CO levels in the vicinity of the project are above or below State and Federal CO standards. If the project causes an exceedance of either the State one-hour or eight-hour CO concentrations, the project would be considered to have a significant local impact. If ambient levels already exceed a State or Federal standard, then project emissions would be considered significant if they increase one-hour CO concentrations by 1.0 ppm or more, or eight-hour CO concentrations by 0.45 ppm or more; refer to Table 5.4-4, *Federal and State Carbon Monoxide Standards*.

Table 5.4-4
Federal and State Carbon Monoxide Standards

Jurisdiction	Averaging Time	Carbon Monoxide (CO) Standard (parts per million)
Federal	1 Hour	35
	8 Hours	9
State	1 Hour	20
	8 Hours	9
Source: California Air Resources Board.		

5.4.5 IMPACTS AND MITIGATION MEASURES

SHORT-TERM (CONSTRUCTION) AIR EMISSIONS

- **SHORT-TERM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN SIGNIFICANT AIR POLLUTANT EMISSIONS IMPACTS.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: Short-term air quality impacts are predicted to occur during grading and construction operations associated with implementation of the proposed project. Temporary air emissions would result from the following activities:

- Particulate (fugitive dust) emissions from grading and demolition; and

- Exhaust emissions from the construction equipment and the motor vehicles of the construction crew.

The proposed project is anticipated to begin construction in 2006 and would occur over approximately 34 months, ending in 2009. There are currently five structures on-site with approximately 50,000 square feet of commercial, office and residential land uses. The proposed project includes the construction of a mixed-use development involving a 22-story residential tower, a 15- to 19-story building and a 10-story building. The proposed buildings would be situated over a two-story podium of residential, retail and live/work units, resulting in a maximum height of 24-, 21- and 12-stories. The project would result in 358 residential units including live/work spaces, townhomes, apartments and associated amenities. Grading activities would include the excavation and transport of approximately 140,000 cubic yards of soil and other materials to the Puente Landfill in Whittier, California.

Fugitive Dust Emissions

Fugitive dust from grading and construction is expected to be short-term and would cease following completion of the proposed project improvements. Additionally, most of this material is inert silicates and are less harmful to health than the complex organic particulates released from combustion sources. Dust generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM_{10} generated as a part of fugitive dust emissions. Implementation of the recommended mitigation regarding dust control techniques (e.g., daily watering), limitations on construction hours and adherence to SCAQMD Rules 402 and 403 (which require watering of inactive and perimeter areas, track out requirements, etc.) would reduce impacts of PM_{10} fugitive dust. As indicated in Table 5.4-5, *Construction Air Emissions*, impacts associated with PM_{10} are anticipated to be below the SCAQMD threshold, and therefore would be less than significant.

ROG Emissions

The application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. In accordance with the methodology prescribed by the SCAQMD, the ROG emissions associated with paving have been quantified with the URBEMIS2002 model; refer to Table 5.4-5. With implementation of Regulation XI (Rule 1113 – Architectural Coating), ROG emissions would be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the project site, emissions produced on-site as the equipment is used and emissions from trucks transporting materials to/from the site. The proposed project improvements would require the export of 140,000 cubic yards of soil. Emitted pollutants would include CO, ROG, NO_X, SO_X and PM_{10}.

Table 5.4-5
Construction Air Emissions

Emissions Source	Pollutant (lbs/day)[1]				
	ROG	NO_X	CO	PM_{10}	SO_X
Year 1 (Grading, Excavation, Demolition, and Construction of Structures)					
Unmitigated Construction Emissions	41.94	348.14	317.86	200.49	1.32
Mitigated Emissions[2]	41.94	348.14	317.86	40.67	1.32
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*
Threshold Exceeded?	**No**	**Yes**	**No**	**No**	**No**
Year 2 (Construction of Structures)					
Unmitigated Construction Emissions	28.80	187.98	235.84	7.71	0.0
Mitigated Emissions[2]	28.80	187.98	235.84	7.71	0.0
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*
Threshold Exceeded?	**No**	**Yes**	**No**	**No**	**No**
Year 3 (Construction of Structures and Paving Activities)					
Unmitigated Construction Emissions	34.25	218.07	281.39	8.39	0.0
Mitigated Emissions[2]	34.25	218.07	281.39	8.39	0.0
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*
Threshold Exceeded?	**No**	**Yes**	**No**	**No**	**No**

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter; up to 10 microns

1 Calculations include emissions from numerous sources, including grading, construction worker trips, stationary equipment, diesel mobile equipment and asphalt off-gassing.

2 Refer to Appendix 15.4, *Air Quality Data*, for assumptions used in this analysis, including quantified emissions reduction by standard mitigation measures practices. Mitigation includes applying soil stabilizers to inactive areas, replacing groundcover in disturbed areas quickly, watering exposed surfaces twice daily and covering stockpiles with a tarpaulin.

Source: Emissions were calculated using the URBEMIS2002 Computer Model, as recommended by the SCAQMD.

Standard SCAQMD regulations would be adhered to such as maintaining all construction equipment in proper tune, shutting down equipment when not in use for extended periods of time and implementing SCAQMD Rule 403. However, construction equipment exhaust would cause an exceedance of the SCAQMD's NO_x thresholds, resulting in a significant impact.

Odors

Potential sources that may emit odors during construction activities include the use of architectural coatings and solvents. SCAQMD Rule 1113 limits the amount of volatile organic compounds from architectural coatings and solvents. Construction activities or materials would not create objectionable odors with compliance with SCAQMD rules. Therefore, impacts would be less than significant and no mitigation would be required.

Total Daily Construction Emissions

In accordance with SCAQMD guidelines, URBEMIS2002 was utilized to model construction emissions for ROG, NO_X, CO, SO_X and PM_{10}. Since construction would occur for 34 months, it has been assumed that the greatest emissions would be generated within the first stages of development (site grading activities).

As illustrated in Table 5.4-5, construction emissions associated with the proposed improvements would exceed SCAQMD thresholds for NO_X, resulting in a significant impact. The URBMIS2002 model allows the user to input mitigation measures such as limiting speeds for construction equipment on-site, watering the construction area to limit fugitive dust and applying soil stabilizers to the project area. Mitigation measures within the URBEMIS2002 model allow for certain reduction credits and result in a decrease of pollutant emissions. Reduction credits based upon studies developed by CARB, the SCAQMD and other air quality management districts throughout California were programmed within the URBEMIS2002 model. With implementation of recommended mitigation measures, a reduction in PM_{10} emissions would occur. However, the recommended mitigation measures would not provide a reduction to NO_x, which would therefore result in an exceedance of the SCAQMD threshold. The proposed project would be required to comply with all mitigation measures, which specify compliance with SCAQMD rules and regulations, as well as proper consultation with the City prior to grading activities. However, it is concluded that NO_x emissions would exceed the SCAQMD thresholds, thus, resulting in a significant and unavoidable impact.

Mitigation Measures:

AQ-1 Prior to approval of the project plans and specifications, the Public Works Director, or his designee, shall confirm that the plans and specifications stipulate that, in compliance with SCAQMD Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust preventive measures, as specified in the SCAQMD Rules and Regulations. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors:

- All active portions of the construction site shall be watered to prevent excessive amounts of dust;
- On-site vehicles' speed shall be limited to 15 miles per hour (mph);
- All on-site roads shall be paved as soon as feasible or watered periodically or chemically stabilized;
- All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust; watering, with complete coverage, shall occur at least twice daily, preferably in the late morning and after work is done for the day;

- If dust is visibly generated that travels beyond the site boundaries, clearing, grading, earth moving or excavation activities that are generating dust shall cease during periods of high winds (i.e., greater than 25 mph averaged over one hour) or during Stage 1 or Stage 2 episodes; and

- All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.

AQ-2 Prior to approval of the project plans and specifications, the Public Works Director, shall confirm that the plans and specifications stipulate that, in compliance with SCAQMD Rule 403, ozone precursor emissions from construction equipment vehicles shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturer's specifications, to the satisfaction of the Resident Engineer. The City inspector shall be responsible for ensuring that contractors comply with this measure during construction.

AQ-3 Prior to issuance of grading permits or approval of grading plans, the City shall include in the construction contract standard specifications, a written list of instructions to be carried out by the construction manager specifying measures to minimize emissions by heavy equipment for approval by the Public Works Director. Measures shall include provisions for proper maintenance of equipment engines, measures to avoid equipment idling more than two minutes and avoidance of unnecessary delay of traffic on off-site access roads by heavy equipment blocking traffic.

AQ-4 In compliance with SCAQMD Rule 1113, ROG emissions from architectural coatings shall be reduced by using precoated/ natural-colored building materials, water-based or low-ROG coating and using coating transfer or spray equipment with high transfer efficiency.

AQ-5 Prior to the issuance of grading permits, the contractor shall include the following measures on construction plans, to the satisfaction of the Public Works Director, or his designee:

- The General Contractor shall organize construction activities so as not to interfere significantly with peak hour traffic and minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flag person shall be retained to maintain safety adjacent to existing roadways;

- The General Contractor shall utilize electric- or diesel-powered stationary equipment in lieu of gasoline powered engines where feasible; and

- The General Contractor shall state in construction grading plans that work crews would shut off equipment when not in use.

Level of Significance After Mitigation: Significant and Unavoidable Impact for NO_x emissions.

LONG-TERM (OPERATIONAL) AIR EMISSIONS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN SIGNIFICANT AIR EMISSIONS IMPACTS.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis:

Mobile Source Air Emissions

Mobile sources emissions would be generated from vehicle trips produced by residents and employees, and patrons of the commercial land uses. An estimated 3,080 daily vehicle trips would be generated by the proposed project.

Area Source Emissions

Pollutant emissions associated with energy demand (i.e., electricity generation and natural gas consumption) are classified by the SCAQMD as regional stationary source emissions. Criteria pollutant area source emissions would be generated by increased concentration of electrical energy and natural gas with the development of the proposed project. Electric power generating plants are distributed throughout the Basin and western United States. Electricity is considered an area source since it is produced at various locations within, as well as outside of the Basin. Since it is not possible to isolate where electricity is produced, these emissions are conservatively considered to occur within the Basin and are regional in nature. The primary use of natural gas by the proposed land uses would be for combustion to produce space heating, water heating, other miscellaneous heating, or air conditioning, consumer products and landscaping.

<u>Diesel Fired – Back Up Generators</u>

The proposed project would also include the use of a 1000-kilowatt (1,341 horsepower), 277/480 Volt, three phase, four wire Emergency Diesel Generator with skid mounted day tank (fuel capacity of eight hours). Automatic transfer switches would be provided to supply emergency power through step-down transformers to emergency lighting, fire/life safety system, elevator and fire pump. Unless a blackout occurs, this generator will be operated for a maximum of one hour per month for routine testing and maintenance purposes. The Applicant will be required to obtain a permit to construct and a permit to operate these standby generators under SCAQMD Rules 201, 202 and 203. Under New Source Review (NSR), the generator will be required to meet Best Available Control Technology (BACT) requirements to minimize emissions of CO, ROG, NO_x, and PM_{10}. BACT standards for diesel-fired emergency generators specify a maximum allowable emissions rate of 8.5 grams of carbon monoxide per horsepower-hour (hp-hr), 1.0 gram of ROG per hp-hr, 6.9 grams of NO_x per hp-hr, and 0.38 gram of PM_{10} per hp-hr. Sulfur dioxide emissions will be minor since the sulfur content of the diesel fuel will be limited to

0.05 percent by weight under SCAQMD Rule 431.2 (Sulfur Content of Liquid Fuels). Emergency equipment, however, is exempt from modeling and offset requirements (Rule 1304) and does not require a health risk assessment (Rule 1401).

In addition to applying for a permit to construct from the SCAQMD, it would be necessary to apply for a *Special Application for Temporary Emergency Authorization To Operate Electric Backup Generator(s) During Involuntary Power Service Interruptions Permit*.[1] Therefore, impacts associated with the operation of diesel-powered generators are anticipated to be less than significant.

Total Regional Emissions

Based on the existing land uses, the site currently results in emissions of 6.47 lbs/day of ROG; 3.74 lbs/day of NO_X; 22.20 lbs/day of CO; 4.32 lbs/day of PM_{10} and 0.02 lbs/day of NO_X. As shown in Table 5.4-6, *Operational Air Emissions*, the operational emissions from the proposed project result in a total of 39.15 lbs/day of ROG; 16.90 lbs/day of NO_X; 156.20 lbs/day of CO; 28.68 lbs/day of PM_{10}; 0.19 lbs/day of SO_x upon project buildout. Note, that even if the existing emissions were not discounted, the proposed project would not exceed the SCAQMD thresholds of significance. Thus, since the proposed project would not result in significant operational impacts, no additional mitigation measures were programmed in the URBEMIS 2002 model.

Table 5.4-6
Operational Air Emissions

Emission Source	Emissions (pounds/day)[1]				
	ROG	NO_X	CO	PM_{10}	SO_X
Existing Emissions					
Unmitigated Emissions					
Area Source Emissions	4.57	0.69	0.38	0.00	0.38
Mobile Source Emissions	1.90	3.05	21.82	4.31	0.02
Total Emissions	**6.47**	**3.74**	**22.20**	**4.32**	**0.02**
Proposed Project Emissions					
Unmitigated Emissions					
Area Source Emissions	23.93	2.84	2.82	0.01	0.00
Mobile Source Emissions	15.22	14.06	153.38	28.67	0.19
Total Emissions	**39.15**	**16.90**	**156.20**	**28.68**	**0.19**
Net Increase over Existing Emissions	**32.68**	**13.16**	**134.0**	**24.36**	**0.17**
SCAQMD Thresholds	55	55	550	150	150
Thresholds Exceeded?	**No**	**No**	**No**	**No**	**No**

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter; up to 10 microns.

1. Refer to the worksheets in Appendix 15.4, *Air Quality Data*, for detailed assumptions.

[1] South Coast Air Quality Management District, http://www.aqmd.gov/permit/ em_back_up_gen.html, November 29, 2004.

Localized Emissions

Project traffic, during the operational phase of the project, would have the potential to create local area impacts. Carbon monoxide is a primary pollutant and, unlike ozone, is directly emitted from a variety of sources. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of its impacts upon the local air quality. Comparisons of levels with State and Federal CO standards indicate the severity of the existing concentrations for receptors in the Project area.

An impact is potentially significant if a project produces emissions levels that exceed the State or Federal AAQS, refer to Table 5.4-4, *Federal and State Carbon Monoxide Standards*. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere; adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Areas of vehicle congestion have the potential to create "pockets" of CO called "hot spots." These pockets have the potential to exceed the State 1-hour standard of 20.0 ppm and/or the 8-hour standard of 9.0 ppm. Note that Federal levels are based on 1- and 8-hour standards of 35.0 and 9.0 ppm, respectively.

To identify CO hotspots, the SCAQMD criterion recommends performing a CO hotspot analysis when a project increases the volume-to-capacity (V/C) ratio (also called the intersection capacity utilization) by 0.02 (2 percent) for any intersection with an existing level of service (LOS) D or worse. A CO hotspot analysis is also required if an existing intersection has a LOS C and worsens to an LOS D with implementation of a proposed project. Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hot spots are typically produced at intersection locations. A higher LOS would result in greater risk for a CO hotspot. Typically, LOS at an intersection producing a hot spot is at LOS D or worse during the peak hour.

Table 5.4-7, *Carbon Monoxide Levels at Surrounding Intersections*, indicates the anticipated CO levels within the area. The maximum 1-hour CO concentration is 7.2 ppm for the Pine Avenue/Ocean Boulevard intersection. The CO levels are well below the State and Federal standards of 20 ppm and 35 ppm respectively. Additionally, the maximum 8-hour CO concentration is 5.0 ppm for same intersection. The measured concentrations are well below the State and Federal standard of 9 ppm. Therefore, the proposed project will not result in adverse CO emissions, and impacts in this regard will be less than significant.

Carbon Monoxide Within Subterranean Parking Areas

Subterranean parking would potentially result in an increase of vehicles operating in a cold start mode. If the catalytic converter of a vehicle is not already warm from previous operation, the car is said to be in a "cold start" mode. A typical cold start would occur after the vehicle is parked in excess of eight hours overnight where the dewpoint could rise and lower the temperature. During a cold start, the catalytic converter is too cold for the chemical reaction that converts pollutants (e.g. carbon monoxide, hydrocarbons and nitrogen oxides) to water vapor, nitrogen and carbon dioxide. More technically, the rate of the chemical reaction is too slow at low

temperatures to control the emissions. Thus, the emissions from the tailpipe are the same as the uncontrolled emissions from the engine during a cold start.[2]

Table 5.4-7
Carbon Monoxide Levels at Surrounding Intersections

Intersections	1-hour CO (ppm) [1]		8-hour CO (ppm) [1]	
	1-hour Standard[2]	Future Plus Project	8-hour Standard[3]	Future Plus Project
Magnolia Avenue/6th Street	20 ppm	6.5	9 ppm	4.6
Pacific Avenue/Broadway	20 ppm	6.6	9 ppm	4.6
Pacific Avenue/Ocean Boulevard	20 ppm	6.4	9 ppm	4.5
Pine Avenue/Broadway	20 ppm	6.6	9 ppm	4.6
Pine Avenue/Ocean Boulevard	20 ppm	7.2	9 ppm	5.0
Elm Avenue/Broadway	20 ppm	6.5	9 ppm	4.6
Lime Avenue/Broadway	20 ppm	7.0	9 ppm	4.9
Lime Avenue/7th Street	20 ppm	6.5	9 ppm	4.6
Alamitos Avenue/7th Street	20 ppm	6.9	9 ppm	4.8
Alamitos Avenue/Broadway	20 ppm	6.6	9 ppm	4.6
Alamitos/Shoreline Avenue/Ocean Boulevard	20 ppm	7.0	9 ppm	4.9
Orange Avenue/Ocean Boulevard	20 ppm	7.0	9 ppm	4.9

1. As measured at a distance of 10 feet from the corner of the intersection predicting the highest value. Presented 1-hour CO concentrations include a background concentration of 6.0 ppm.
2. The State 1-hour standard is 20 ppm. The Federal standard is 35 ppm. The most stringent standard is reflected.
3. The State 8-hour and Federal 8-hour standard is 9 ppm.

Using CALINE4, the CO levels within the parking structure were modeled; refer to Table 5.4-8, Carbon *Monoxide Levels Within the Parking Structure*. Based on the project Traffic Impact Analysis, the project would generate 148 trips during the AM peak hour. This number was utilized to determine that number of cars that could potentially occupy the structure. As shown in Table 5.4-8, the CO levels within the parking structure would be similar to the surrounding intersections at 6.3 ppm, which is well below the State 1-hour standard for CO. The proposed project would also include the use of a garage exhaust ventilation system. Per the International Mechanical Code (Section 403.5 [Public Garages]), mechanical ventilation systems are required to operate automatically upon detection of a concentration or carbon monoxide of 25 ppm by approved detection devices. The 25 ppm trigger is the maximum allowable concentration for continuous exposure in any eight hour period according to the American Conference of Governmental Industrial Hygienists.[3] Carbon monoxide concentrations within the parking garage would also be below the State's one-hour standard.

[2] http:www4.ncsu.edu/~frey/emissions/drivingtips.html, May 10, 2006.

[3] Vulcain Inc, http://www.vulcaininc.com/uploadedFiles/Datasheets/Parking_Structures_Guidelines_EN.pdf, May 11, 2006.

According to site plans, there are currently four exhaust exterior vents located on each side of the parking garage. The vents would direct CO emissions onto the surrounding sidewalks. However, since CO levels would be below standards within the structure, it is anticipated that hotspots would not result from vehicles within the parking structure. This would result in a less than significant impact.

Table 5.4-8
Carbon Monoxide Levels Within the Parking Structure

Area	1-hour CO (ppm) [1]		8-hour CO (ppm) [1]	
	1-hour Standard[2]	Future Plus Project	8-hour Standard[3]	Future Plus Project
Parking Structure	20 ppm	6.3	9 ppm	4.4

1. As measured within the parking structure area predicting the highest value. Presented 1-hour CO concentrations include a background concentration of 6.0 ppm.
2. The State 1-hour standard is 20 ppm. The Federal standard is 35 ppm. The most stringent standard is reflected.
3. The State 8-hour and Federal 8-hour standard is 9 ppm.

Mitigation Measures:

AQ-6 The project Applicant shall comply with SCAQMD Regulations and apply for a *Special Application for Temporary Emergency Authorization To Operate Electric Backup Generator(s) During Involuntary Power Service Interruptions Permit* prior to installation and operation of the proposed emergency back up generators.

AQ-7 Prior to the issuance of building permits, the Applicant shall demonstrate to the City of Long Beach Planning and Building Department that all residential and non-residential buildings meets the California Title 24 Energy Efficiency standards for water heating, space heating and cooling, to the extent feasible.

AQ-8 Prior to the issuance of building permits, the Applicant shall demonstrate to the City of Long Beach Planning and Building Department that all fixtures used for lighting of exterior common areas are regulated by automatic devices to turn off lights when they are not needed.

Level of Significance After Mitigation: Less Than Significant Impact.

CONSISTENCY WITH REGIONAL PLANS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD BE CONSISTENT WITH REGIONAL PLANS.**

Level of Significance Prior to Mitigation: Less Than Significant Impact.

Impact Analysis: As noted under the Significance Criteria discussion, a potentially significant impact on air quality would occur if a project would conflict with or obstruct implementation of the applicable AQMP. Although the project would represent an incremental negative impact on air quality in the Basin, of primary concern is that project-related impacts have been properly anticipated in the regional air quality planning process and reduced whenever feasible. Therefore, it is necessary to assess the project's consistency with the AQMP.

According to the SCAQMD Handbook, the purpose of the consistency finding is to determine whether a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus whether it would interfere with the region's ability to comply with Federal and State air quality standards. If a project is inconsistent, local governments need to consider project modifications or inclusion of mitigation to eliminate the inconsistency. Consistency with the AQMP implies that a project is consistent with the goals, objectives and assumptions in the respective plan to achieve the Federal and State air quality standards.

Per the SCAQMD Handbook, there are two main indicators of a project's consistency with the AQMP:

- Whether the project would increase the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP; and

- Whether the project would exceed the AQMP's assumptions for 2020 or yearly increments, based on the year of project buildout and phase.

As indicated in the *Long-Term Operational Impacts* discussion, the proposed project would not result in exceedances of SCAQMD thresholds for criteria pollutants and therefore satisfies the first criteria for consistency with the AQMP. Additionally, implementation of the proposed project would not result in the formation of CO hotspots from the increase of LOS at study intersections.

A project is also consistent with the AQMP if it is consistent with the population, housing and employment assumptions, which were used in the development of the AQMP. The 2003 AQMP, the most recent AQMP adopted by the SCAQMD, incorporates in part local city general plans and SCAG's Regional Transportation Plan socioeconomic forecast projections of regional population, housing and employment growth.

The project site is currently developed with multi-family residential, retail, restaurant, office and parking uses on several parcels. The proposed project would not require any General Plan amendments. The project area is part of the Central Long Beach Redevelopment Project Area. Originally adopted on September 21, 1993, the Central Long Beach Redevelopment Project Area encompasses approximately 2,618 acres of land generally located south of the I-405 freeway, north of downtown, east of the I-710 freeway and west of Redondo Boulevard. The primary objective of the Central Redevelopment Plan is to re-direct and concentrate commercial facilities in

significant centers and along major arterial corridors, while accommodating residential needs and preserving and rehabilitating existing neighborhoods.

Development of the proposed project would be consistent with the goals and policies of the Redevelopment Plan and relevant strategic planning documents. Project implementation would contribute to long-range development goals identified by the City and Redevelopment Agency.

According to the SCAG growth projections, the City of Long Beach would have a population of 518,627 in Year 2015. Development of 358 (net increase of 295 units) dwelling units on the project site would cause a direct increase in the City's population. Using the California State Department of Finance average household size of 2.913 persons,[4] the 358 dwelling units of the proposed project would generate an average resident population of 1,043 persons (358 units x 2.913 person/unit = 1,043 persons). The increase in population is considered minimal, as it would represent 0.2 percent of the City's projected 2015 population.

Since the project would be consistent with the City's General Plan and SCAG population growth forecasts, the project would be consistent with the latest AQMP. Therefore, impacts are anticipated to be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: Not applicable.

5.4.6 CUMULATIVE IMPACTS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND RELATED CUMULATIVE PROJECTS WOULD RESULT IN SIGNIFICANT AIR QUALITY IMPACTS.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis:

Cumulative Construction Emissions

Of the 38 projects that have been identified within the proposed project study area, there are a number of related projects that have not been built or are currently under construction. Since the Applicant has no control over the timing or sequencing of the related projects, any quantitative analysis to ascertain the daily construction emissions that assumes multiple, concurrent construction would be speculative.

With respect to the project's construction-period air quality emissions and cumulative Basin-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the AQMP pursuant to Federal Clean Air Act mandates. As such, the proposed project would comply with SCAQMD Rule 403

[4] California State Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State 2001-2005, with 2000 Benchmark*. Sacramento, California, May 2005.

requirements, and implement all feasible mitigation measures. In addition, the proposed project would comply with adopted AQMP emissions control measures. Per SCAQMD rules and mandates as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted AQMP emissions control measures) would also be imposed on construction projects Basin-wide, which would include each of the related projects mentioned above.

Although compliance with SCAQMD rules and regulations would reduce construction related impacts, the project related construction emissions have been concluded to be significant and unavoidable. Thus, it can be reasonable inferred that the project related construction activities, in combination with those from other projects in the area would deteriorate the local air quality and lead to cumulative construction related impact. Therefore, even with the implementation of Mitigation Measures AQ-1 through AQ-5, a significant and unavoidable cumulative construction air quality impact would result.

Cumulative Operational Emissions

Implementation of the proposed project would result in an increase in emissions, which would contribute to region-wide emissions on a cumulative basis. Although the project would not result in exceedances of criteria pollutants for long-term operational impacts and would be consistent with the City's *General Plan* and the Redevelopment Plan, implementation of the project in combination with other developments within the City would result in an increase in criteria pollutants. As the Basin is in Non-attainment for CO, O_3 and PM_{10}, the projects contribution to region-wide emissions would result in a significant cumulative air quality impact. Although the implementation of Mitigation Measures AQ-6 through AQ-8 would lessen the projects contribute to the regional pollutant burden, the project's cumulative operational air quality impacts are concluded to be significant and unavoidable.

Mitigation Measures: Refer to Mitigation Measures AQ-1 through AQ-8. No additional mitigation measures are recommended.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

5.4.7 SIGNIFICANT UNAVOIDABLE IMPACTS

Despite compliance with mitigation measures, NO_x emissions during construction would remain above SCAQMD thresholds. Cumulative construction impacts related to regional emissions would be significant and unavoidable, as well as cumulative regional operational impacts.

If the City of Long Beach approves the Shoreline Gateway Project, the City shall be required to adopt findings in accordance with Section 15091 of the *CEQA Guidelines* and prepare a Statement of Overriding Considerations in accordance with Section 15093 of the *CEQA Guidelines*.

5.5 NOISE

The purpose of this Section is to analyze project-related noise source impacts on-site and to surrounding land uses. This Section evaluates short-term construction related impacts, as well as future buildout conditions. Mitigation measures are also recommended to avoid or lessen the project's noise impacts. Information in this Section was obtained from the *City of Long Beach General Plan* and the *City of Long Beach Municipal Code*. For the purposes of mobile source noise modeling and contour distribution, traffic information contained in the project Traffic Impact Analysis was utilized; refer to Section 5.3, *Traffic and Circulation*.

5.5.1 NOISE SCALES AND DEFINITIONS

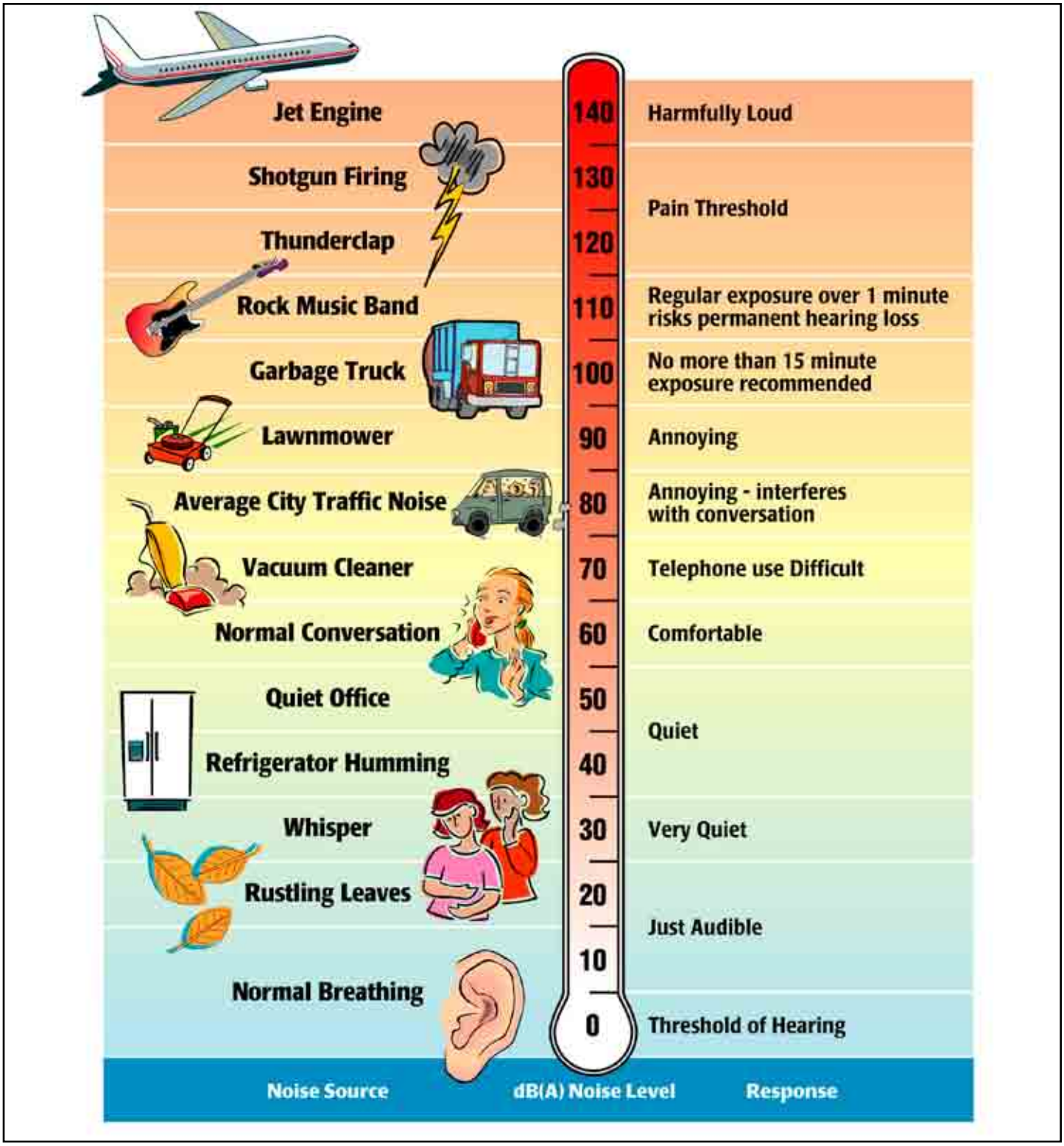
Human response to sound is highly individualized. Annoyance is the most common issue regarding community noise. The percentage of people claiming to be annoyed by noise will generally increase with the environmental sound level. However, many factors will also influence people's response to noise. The factors can include the character of the noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the occurrence. Additionally, non-acoustical factors, such as the person's opinion of the noise source, the ability to adapt to the noise, the attitude towards the source and those associated with it, and the predictability of the noise, will all influence people's response. As such, response to noise varies widely from one person to another and with any particular noise, individual responses will range from "not annoyed" to "highly annoyed."

Sound is described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is judged to be twice as loud, and 20 dBA higher four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Examples of various sound levels in different environments are illustrated on Exhibit 5.5-1, *Sound Levels and Human Response*.

Many methods have been developed for evaluating community noise to account for, among other things:

- The variation of noise levels over time;
- The influence of periodic individual loud events; and
- The community response to changes in the community noise environment.



Source: Melville C. Branch and R. Dale Beland, *Outdoor Noise in the Metropolitan Environment*, 1970.
Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (EPA/ONAC 550/9-74-004), March 1974.

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SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

Sound Levels and Human Response

Exhibit 5.5-1

Numerous methods have been developed to measure sound over a period of time. These methods include: 1) the Community Noise Equivalent Level (CNEL); 2) the Equivalent Sound Level (Leq); and 3) Day/Night Average Sound Level (L_{dn}). These methods are described below.

EQUIVALENT NOISE LEVEL (Leq)

The L_{eq} is the sound level containing the same total energy over a given sample time period. The L_{eq} can be thought of as the steady sound level, which in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL)

The predominant community noise rating scale used in California for land use compatibility assessment is the Community Noise Equivalent Level (CNEL). The CNEL reading represents the average of 24 hourly readings of equivalent levels, known as Leq's, based on an A-weighted decibel with upward adjustments added to account for increased noise sensitivity in the evening and night periods. These adjustments are +5 dBA for the evening, 7:00 PM to 10:00 PM, and +10 dBA for the night, 10:00 PM to 7:00 AM CNEL may be indicated by "dBA CNEL" or just "CNEL".

DAY NIGHT AVERAGE (Ldn)

Another commonly used method is the day/night average level or L_{dn}. The L_{dn} is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the L_{eq}. The L_{dn} is calculated by averaging the Leq's for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 PM to 7:00 AM), by 10 dBA to account for the increased sensitivity of people to noises that occur at night.

OTHER NOISE MEASURES

The maximum noise level recorded during a noise event is typically expressed as Lmax. The sound level exceeded over a specified time frame can be expressed as Ln (i.e., L_{90}, L_{50}, L_{10}, etc.). L_{50} equals the level exceeded 50 percent of the time, L_{10} ten percent of the time, etc.

GROUND-BORNE VIBRATION

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity or acceleration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration amplitudes. PPV is defined as the maximum instantaneous peak or vibration signal, while RMS is defined as the square root of the average of the squared amplitude of the signal. PPV is typically used for evaluating potential

building damage, whereas RMS is typically more suitable for evaluating human response. Typically, ground-borne vibration, generated by man-made activities attenuates rapidly with distance from the source of vibration. Man-made vibration issues are therefore usually confined to short distances (i.e., 500 feet or less) from the source.

Both construction and operation of development projects can generate ground-borne vibration. In general, demolition of structures preceding construction generates the highest vibrations. Construction equipment such as vibratory compactors or rollers, pile drivers and pavement breakers can generate perceptible vibration during construction activities. Heavy trucks can also generate ground-borne vibrations that vary depending on vehicle type, weight and pavement conditions.

5.5.2 REGULATORY SETTING

It is difficult to specify noise levels that are generally acceptable to everyone; what is annoying to one person may be unnoticed by another. Standards may be based on documented complaints in response to documented noise levels, or based on studies of the ability of people to sleep, talk or work under various noise conditions. All such studies, however, recognize that individual responses vary considerably. Standards usually address the needs of most of the general population.

This section summarizes the laws, ordinances, regulations and standards that are applicable to the project. Regulatory requirements related to environmental noise are typically promulgated at the local level. However, Federal and state agencies provide standards and guidelines to the local jurisdictions.

STATE OF CALIFORNIA GUIDELINES

California Environmental Quality Act

CEQA was enacted in 1970 and requires that all known environmental effects of a project be analyzed, including environmental noise impacts. Under CEQA, a project has a potentially significant impact if the project exposes people to noise levels in excess of standards established in the local general plan or noise ordinance. Additionally, under CEQA, a project has a potentially significant impact if the project creates a substantial increase in the ambient noise levels in the project vicinity above levels existing without the project. If a project has a potentially significant impact, mitigation measures must be considered. If mitigation measures to reduce the impact to less than significant levels are not feasible due to economic, social, environmental, legal or other conditions, the most feasible mitigation measures must be considered.

California Government Code

California Government Code Section 65302 (f) mandates that the legislative body of each county and city adopt a noise element as part of their comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services, as shown in Table 5.5-1, *Land Use Compatibility for Community Noise Environments*.

Table 5.5-1
Land Use Compatibility For Community Noise Environments

Land Use Category	Community Noise Exposure (Ldn or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50 – 60	55 - 70	70-75	75-85
Residential - Multiple Family	50 – 65	60 - 70	70 – 75	70 - 85
Transient Lodging - Motel, Hotels	50 – 65	60 - 70	70 – 80	80 - 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 70	60 - 70	70 – 80	80 - 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	NA	65 - 85
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	NA	70 - 85
Playgrounds, Neighborhood Parks	50 – 70	NA	67.5 – 75	72.5 - 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 70	NA	70 – 80	80 - 85
Office Buildings, Business Commercial and Professional	50 – 70	67.5 - 77.5	75 – 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 - 80	75 – 85	NA

NA = Not Applicable.

Notes:
Normally Acceptable - Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable - New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable – New construction or development should generally not be undertaken.

Source: General Plan Guidelines, Office of Planning and Research, California, October 2003.

The guidelines rank noise land use compatibility in terms of “normally acceptable”, “conditionally acceptable”, “normally unacceptable” and “clearly unacceptable” noise levels for various land use types. Single-family homes are “normally acceptable” in exterior noise environments up to 60 CNEL and “conditionally acceptable” up to 70 CNEL. Multiple-family residential uses are “normally acceptable” up to 65 CNEL and “conditionally acceptable” up to 70 CNEL. Schools, libraries and churches are “normally acceptable” up to 70 CNEL, as are office buildings and business, commercial and professional uses.

CITY OF LONG BEACH

Title 8.0 of the *Long Beach Municipal Code* (*Municipal Code)* covers all City Health and Safety issues. Chapter 8.80 (Noise Ordinance) of the *Municipal Code* sets forth all noise regulations controlling unnecessary, excessive and annoying noise and vibration in the City of Long Beach. As outlined in Chapter 8.80 of the *Municipal Code* and as indicated in Table 5.5-2, *Exterior Noise Limits,* maximum exterior noise levels are based on land use districts. The following is taken from the *Municipal Code:*

Section 8.80.150 Exterior noise limits-Sound levels by receiving land use district.

A. The noise standards for the various land use districts identified by the noise control office as presented in Table A (refer to Table 5.5-2, *Exterior Noise Limits*) *in Section 8.80.160 shall, unless otherwise specifically indicated, apply to all such property within a designated district.*

B. No person shall operate or cause to be operated any source of sound at any location within the incorporated limits of the city or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measured from any other property, either incorporated or unincorporated, to exceed:

1. The noise standard for that land use district as specified in Table A in Section 8.80.160 for a cumulative period of more than thirty minutes in any hour; or

2. The noise standard plus five decibels for a cumulative period of more than fifteen minutes in any hour; or

3. The noise standard plus ten decibels for a cumulative period of more than five minutes in any hour; or

4. The noise standard plus fifteen decibels for a cumulative period of more than one minute in any hour; or

5. The noise standard plus twenty decibels or the maximum measured ambient, for any period of time.

C. If the measured ambient level exceeds that permissible within any of the first four noise limit categories in subsection B of this section, the allowable noise exposure standard shall be increased in five decibels increments in each category as appropriate to encompass or reflect the ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category in subsection B of this section, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

D. If the measurement location is on a boundary between two different districts, the noise level limit applicable shall be the arithmetic mean of the two districts.

E. If possible, the ambient noise shall be measured at the same location along the property line utilized in subsection B of this section, with the alleged offending noise source inoperative. If for any reason the alleged offending noise source cannot be shut down, then the ambient noise must be estimated by performing a measurement in the same general area of the source but at a sufficient distance such that the offending noise from the source is inaudible. If the difference between the noise levels with noise source operating and not operating is six decibels or greater, then the noise measurement of the alleged source can be considered valid with a small correction applied to account for the contribution of the ambient noise. The correction is to be

applied in accordance with data shown in Table B in Section 8.80.160. (Ordinance C-5371 § 1 [part], 1977: prior code § 4430.6 [a]).

Table 5.5-2
Exterior Noise Limits

Land Use District[1]	Maximum Exterior Noise Levels (dBA)		
	Daytime[2]	Nighttime[3]	Anytime
1	50	45	--
2	60	55	--
3	--	--	65[(4)]
4	--	--	70[(4)]
5	Regulated by other agencies and laws.		

Notes:
1. Types of land uses associated with each district:
   1 – Predominantly residential
   2 – Predominantly commercial
   3 – Predominantly industrial
   4 – Predominantly industrial
   5 – Airports, freeways and waterways
2. 7:00 AM to 10:00 PM.
3. 10:00 PM to 7:00 AM.
4. Districts 3 and 4 are intended primarily for use at their boundaries rather than for noise control within those districts.

Although the project is predominantly residential, the project site is located in Land Use District 2, as shown in the Noise District Map in Section 8.80.160 of the Municipal Code. The maximum daytime exterior noise level for the project site would therefore be 60 dBA and the nighttime would be 55 dBA. The *Municipal Code* also includes regulations on interior noise standards. The interior noise standards are presented in Table 5.5-3, *Interior Noise Limits*.

Table 5.5-3
Interior Noise Limits

Land Use District	Maximum Interior Noise Levels (dBA)		
	Daytime[1]	Nighttime[2]	Anytime
Residential	45	35	--
Schools	45	--	--
Hospital, Designated quiet zone	--	--	40

Notes:
1. 7:00 AM to 10:00 PM.
2. 10:00 PM to 7:00 AM.

Additionally, the *Municipal Code* states the following regarding interior noise standards:

Section 8.80.170 Interior noise limits-Maximum sound levels.

B. No person shall operate, or cause to be operated, any source of sound indoors at any location within the incorporated limits of the city or allow the creation of any indoor noise which causes the noise level when measured inside the receiving dwelling unit to exceed:

1. The noise standard for that land use district as specified in table C (refer to Table 5.5-3) *for a cumulative period of more than five (5) minutes in any hour; or*

2. The noise standard plus five decibels (5 dB) for a cumulative period of more than one minute in any hour; or

3. The noise standard plus ten decibels (10 dB) or the maximum measured ambient, for any period of time.

C. If the measured indoor ambient level exceeds that permissible within any of the first two (2) noise limit categories in this section, the allowable noise exposure standard shall be increased in five decibel (5 dB) increments in each category as appropriate to reflect the indoor ambient noise level. In the event the indoor ambient noise level exceeds the third noise limit category, the maximum allowable indoor noise level under said category shall be increased to reflect the maximum allowable indoor noise level under said category shall be increased to reflect the maximum indoor ambient noise level. (Ordinance C-5371 § 1 [part], 1977: prior code § 4430.7 [a]).

In addition to interior and exterior noise standards, the City provides regulations for construction activities. According to Section 8.80.202 of the *Municipal Code* during the week (including Federal holidays), construction activities are limited between the hours of 7:00 AM and 7:00 PM. On weekends, construction activities are limited to between 9:00 AM and 6:00 PM on Saturdays and are prohibited on Sundays, unless a Work Permit is authorized. Section 8.80 of the *Municipal Code* requires a Noise Variance for all construction activity that falls outside the approved construction hours. The *Municipal Code* does not provide specific standards for the noise levels associated with construction activities. Although there is no upper threshold for construction noise, Section 8.80 of the *Municipal Code* gives the Noise Control Officer authority to address extremely loud or unusual noise (e.g., employee use of radios or other noises not associated with the construction activity).

5.5.3 ENVIRONMENTAL SETTING

SENSITIVE RECEPTORS

Human response to noise varies widely depending on the type of noise, time of day and sensitivity of the receptor. The effects of noise on humans can range from temporary or permanent hearing loss to mild stress and annoyance due to such things as speech interference and sleep deprivation. Prolonged stress, regardless of the cause, is known to contribute to a variety of health disorders. Noise, or the lack

of it, is a factor in the aesthetic perception of some settings, particularly those with religious or cultural significance. Certain land uses are particularly sensitive to noise, including schools, hospitals, rest homes, long-term medical and mental care facilities and parks and recreation areas. Residential areas are also considered noise sensitive, especially during the nighttime hours.

Existing sensitive receptors located in the project vicinity include multi-family residential uses. The Villa Riviera, the International Tower, the Long Beach Tower, Harbor Place and the Aqua buildings (west of Linden), are high-rise residential uses located to the south of the proposed project on the south side of Ocean Boulevard. Directly west of and adjacent to the project site is a residential use (Artaban). Lower density multi-family residential uses are located north of Medio Street and east of Lime Avenue and between Lime Avenue and the alley. Hotel uses are located west of the alley and east of Atlantic Avenue. Office and hotel uses are located west of Atlantic Avenue. There are also multi-family residential uses east of Alamitos and north of the Shell gas station on the corner of Alamitos Avenue and Ocean Boulevard.

In addition to the residential homes directly adjacent to the proposed project other sensitive receptors such as schools and hospitals are located within the vicinity. The Benjamin Franklin middle school and the Montessori School are located less than a mile away from the project. The St. Mary Medical Center is the closest hospital, approximately one mile from the project site.

AMBIENT NOISE MEASUREMENTS

In order to quantify existing ambient noise levels in the project area, RBF Consulting conducted noise measurements on January 19, 2006; refer to Table 5.5-4, *Noise Measurements*. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the project site. Fifteen-minute measurements were taken at each site, between 12:00 PM and 2:00 PM. Meteorological conditions were typical, with light wind speeds (0 to 5 miles per hour), low humidity and clear skies.

Table 5.5-4
Exterior Noise Measurements

Site No.	Location	Leq (dBA)	Time
1	Southwest corner of Ocean Boulevard and Alamitos Avenue in front of the International Tower	65.2	2:04 PM
2	Atlantic Avenue and driveway/alley	67.9	12:33 PM
3	Alley off Lime Avenue (between Lime Avenue and Broadway Court)	54.2	12:47 PM
4	Medio Street mid-block at Alamitos Avenue	59.8	1:14 PM
5	Ocean Boulevard at Alamitos Avenue (southeast corner)	67.8	1:35 PM

Source: Noise Monitoring Survey conducted by RBF Consulting, January 19, 2006.

Noise monitoring equipment used for the ambient noise survey consisted of a Larson Davis Laboratories Model LDL 820 sound level analyzer equipped with a Larson Davis Random Incidence Model 2561 microphone. The instrumentation was calibrated prior to use with a Larson Davis Model CAL250 acoustical calibrator to ensure the accuracy of the measurements, and complies with applicable requirements of the American National Standards Institute (ANSI) for Type I (precision) sound level meters. The results of the field measurements are indicated in Appendix 15.5, *Noise Data*. Existing measured noise levels range from approximately 54.2 dBA to 67.9 dBA.

MOBILE SOURCES

In order to assess the potential for mobile source noise impacts, it is necessary to determine the noise currently generated by vehicles traveling through the project area. The existing roadway noise levels in the vicinity of the project site were projected. Noise models were run using the Federal Highway Administration's Highway Noise Prediction Model (FHWA RD-77-108) together with several roadway and site parameters. These parameters determine the projected impact of vehicular traffic noise and include the roadway cross-section (e.g., number of lanes), roadway width, average daily traffic (ADT), vehicle travel speed, percentages of auto and truck traffic, roadway grade, angle-of-view and site conditions ("hard" or "soft"). The model does not account for ambient noise levels (i.e., noise from adjacent land uses) or topographical differences between the roadway and adjacent land uses. Noise projections are based on modeled vehicular traffic as derived from the project Traffic Impact Study.

A 30-mile per hour (mph) average vehicle speed was assumed for existing conditions based on empirical observations and posted maximum speeds along the adjacent roadways. ADT estimates were obtained from the project Traffic Impact Study; refer to Appendix 15.3, *Traffic Impact Analysis*. Existing modeled traffic noise levels can be found in Table 5.5-5, *Existing Traffic Noise Levels*.

STATIONARY NOISE SOURCES

The project area is highly urbanized, consisting of a mix of residential, commercial/retail, institutional, office and parking uses served by a grid system of arterial and collector streets. The primary sources of stationary noise in the project vicinity are urban related activities (i.e., mechanical equipment, parking areas, conversations and recreational areas). The noise associated with these sources may represent a single event noise occurrence, short-term or long-term/continuous noise.

5.5.4 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G, of the *CEQA Guidelines* (as amended July 22, 2003) contains analysis guidelines related to the assessment of noise impacts. These guidelines have been utilized as thresholds of significance for this analysis. As stated in Appendix G, a project would create a significant environmental impact if it would:

Table 5.5-5
Existing Traffic Noise Levels

Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Noise Contour (distance from centerline)		
			60 CNEL	65 CNEL	70 CNEL
Magnolia Avenue:					
North of 7th Street	7,120	59.1	88	28	9
Between 7th Street And 6th Street	7,890	59.5	97	31	10
South of 6th Street	7,500	59.3	93	29	9
North of 3rd Street	5,910	58.3	73	23	7
Between 3rd Street and Broadway	7,010	59.0	86	27	9
Between Broadway and Ocean Boulevard	9,720	60.4	120	38	12
South of Ocean Boulevard	3,860	56.4	48	15	5
Chestnut Avenue:					
North of 5th Street	1,060	50.9	13	4	1
South of 5th Street	980	50.6	12	4	1
Cedar Avenue:					
North of 5th Street	1,940	53.6	24	8	2
Between 5th Street and 4th Street	1,590	52.7	20	6	2
South of 4th Street	1,250	51.6	15	5	2
Pacific Avenue:					
North of 7th Street	8,080	59.4	100	32	10
Between 7th Street and 6th Street	8,050	59.4	99	31	10
Between 6th Street and 5th Street	4,370	56.8	54	17	5
Between 5th Street and 4th Street	4,020	56.4	50	16	5
Between 4th Street and 3rd Street	7,010	58.8	86	27	9
Between 3rd Street and Broadway	7,220	58.9	89	28	9
South of Broadway	9,020	59.9	111	35	11
North of Ocean Boulevard	6,400	58.4	79	25	8
Pine Street:					
North of 7th Street	3,360	55.9	41	13	4
Between 7th Street and 6th Street	3,415	56.0	42	13	4
Between 6th Street and 5th Street	4,150	56.9	51	16	5
Between 5th Street and 4th Street	3,870	56.6	48	15	5
Between 4th Street and 3rd Street	3,730	56.4	46	15	5
Between 3rd Street and Broadway	3,920	56.6	48	15	5
South of Broadway	5,220	57.9	65	20	6
North of Ocean Boulevard	5,120	57.8	63	20	6
South of Ocean Boulevard	4,320	57.0	53	17	5
Long Beach Boulevard:					
North of 7th Street	10,500	60.4	130	41	13
Between 7th Street and 6th Street	11,400	60.7	141	44	14
Between 6th Street and 5th Street	10,190	60.2	126	40	13

Table 5.5-5 [continued]
Existing Traffic Noise Levels

Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Noise Contour (distance from centerline)		
			60 CNEL	65 CNEL	70 CNEL
Long Beach Boulevard [continued]:					
Between 5th Street and 4th Street	9,930	60.1	123	39	12
Between 4th Street and 3rd Street	8,090	59.2	100	32	10
Between 3rd Street and Broadway	7,610	59.0	94	30	9
Between Broadway and 1st Street	7,425	58.9	92	29	9
Between 1st Street and Ocean Boulevard	6,410	58.2	79	25	8
Elm Avenue:					
North of 7th Street	1,000	50.7	12	4	1
Between 7th Street and 6th Street	1,055	50.9	13	4	1
South of 6th Street	1,180	51.4	15	5	1
North of 3rd Street	2,240	54.2	28	9	3
Between 3rd Street and Broadway	2,370	54.4	29	9	3
Between Broadway and 1st Street	3,380	56.0	42	13	4
South of 1st Street	3,540	56.2	44	14	4
Atlantic Avenue:					
North of 7th Street	10,020	60.5	124	39	12
Between 7th Street and 6th Street	9,170	60.1	113	36	11
Between 6th Street and 5th Street	8,870	59.9	110	35	11
Between 5th Street and 4th Street	8,530	59.8	105	33	11
Between 4th Street and 3rd Street	6,570	58.6	81	26	8
Between 3rd Street and Broadway	5,585	57.9	69	22	7
Between Broadway and 1st Street	4,900	57.4	61	19	6
Between 1st Street and Ocean Boulevard	3,900	56.4	48	15	5
Lime Avenue:					
North of 7th Street	570	48.2	7	2	1
Between 7th Street and 6th Street	1,115	51.1	14	4	1
Between 6th Street and 5th Street	1,490	52.4	18	6	2
Between 5th Street and 4th Street	825	49.8	10	3	1
Between 4th Street and 3rd Street	585	48.3	7	2	1
Between 3rd Street and Broadway	510	47.7	6	2	1
Between Broadway and 1st Street	685	49.0	8	3	1
Between 1st Street and Ocean Boulevard	515	47.8	6	2	1
Martin Luther King Jr. Avenue:					
North of 7th Street	3,120	55.4	39	12	4
Between 7th Street and 6th Street	6,710	58.7	83	26	8
Alamitos Avenue:					
North of 7th Street	9,690	60.3	120	38	12
Between 7th Street and 6th Street	12,735	61.5	157	50	16

Table 5.5-5 [continued]
Existing Traffic Noise Levels

Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Noise Contour (distance from centerline)		
			60 CNEL	65 CNEL	70 CNEL
Alamitos Avenue [continued]:					
South of 6th Street	13,440	61.7	166	52	17
North of 3rd Street	12,860	61.5	159	50	16
Between 3rd Street and Broadway	15,310	62.3	189	60	19
Between Broadway and 1st Street	12,170	61.3	150	48	15
Between 1st Street and East 1st Street	10,460	60.6	129	41	13
Between East 1st Street and Medio Street	10,220	60.5	126	40	13
Between Medio Street and Ocean Boulevard	9,885	60.4	122	39	12
Shoreline Avenue:					
South of Ocean Boulevard	11,560	60.7	143	45	14
North of Intersection 68	11,660	60.7	144	46	14
South of Intersection 68	11,590	60.7	143	45	14
Bonita Avenue:					
North of Broadway	410	46.8	5	2	0
South of Broadway	540	48.0	7	2	1
North of Ocean Boulevard	570	48.2	7	2	1
Orange Avenue:					
North of 4th Street	2,260	54.2	28	9	3
Between 4th Street and 3rd Street	2,260	54.2	28	9	3
Between 3rd Street and Broadway	2,280	54.3	28	9	3
South of Broadway	2,610	54.8	32	10	3
North of Ocean Boulevard	1,160	51.3	14	5	1
7th Street:					
West of Magnolia Avenue	10,900	60.8	135	43	13
East of Magnolia Avenue	11,720	61.1	145	46	14
West of Pacific Avenue	11,830	61.2	146	46	15
Between Pacific and Pine Street	12,895	61.6	159	50	16
Between Pine Street and Long Beach Boulevard	13,105	61.6	162	51	16
Between Long Beach Boulevard and Elm Avenue	13,120	61.6	162	51	16
East of Elm Avenue	13,200	61.7	163	51	16
West of Atlantic Avenue	14,230	62.0	176	56	18
Between Atlantic Avenue and Lime Avenue	16,170	62.5	199	63	20
Between Lime Avenue and MLK Jr. Avenue	14,525	62.1	179	57	18
Between MLK Jr. Avenue and Alamitos Avenue	17,355	62.8	214	68	21
East of Alamitos Avenue	23,860	64.2	294	93	29
6th Street:					
West of Magnolia Avenue	10,420	60.6	129	41	13
East of Magnolia Avenue	10,530	60.7	130	41	13

Table 5.5-5 [continued]
Existing Traffic Noise Levels

Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Noise Contour (distance from centerline)		
			60 CNEL	65 CNEL	70 CNEL
6th Street [continued]:					
West of Pacific Avenue	9,210	60.1	114	36	11
Between Pacific Avenue and Pine Street	10,810	60.8	134	42	13
Between Pine Street and Long Beach Boulevard	11,660	61.1	144	45	14
Between Long Beach Boulevard and Elm Avenue	10,275	60.6	127	40	13
East of Elm Avenue	8,940	60.0	110	35	11
West of Atlantic Avenue	9,360	60.2	116	37	12
Between Atlantic Avenue and Lime Avenue	9,150	60.1	113	36	11
Between Lime Avenue and MLK Jr. Avenue/Alamitos Avenue	9,650	60.3	119	38	12
East of Alamitos Avenue	1,150	51.1	14	4	1
5th Street:					
West of Chestnut Avenue	1,100	51.1	14	4	1
Between Chestnut Avenue and Cedar Avenue	1,415	52.2	17	6	2
Between Cedar Avenue and Pacific Avenue	5,110	57.8	63	20	6
Between Pacific Avenue and Pine Street	4,350	57.1	54	17	5
Between Pine Street and Long Beach Boulevard	1,525	52.5	19	6	2
East of Long Beach Boulevard	1,200	51.5	15	5	1
West of Atlantic Avenue	1,870	53.4	23	7	2
Between Atlantic Avenue and Lime Avenue	1,870	53.4	23	7	2
East of Lime Avenue	1,840	53.3	23	7	2
4th Street:					
West of Cedar Avenue	2,100	53.9	26	8	3
Between Cedar Avenue and Pacific Avenue	2,280	54.3	28	9	3
Between Pacific Avenue and Pine Street	2,065	53.8	25	8	3
Between Pine Street and Long Beach Boulevard	3,110	55.6	38	12	4
East of Long Beach Boulevard	5,080	57.7	63	20	6
West of Atlantic Avenue	6,280	58.7	78	25	8
Between Atlantic Avenue and Lime Avenue	7,070	59.2	87	28	9
East of Lime Avenue	7,460	59.4	92	29	9
West of Orange Avenue	10,620	60.9	131	41	13
East of Orange Avenue	10,770	61.0	133	42	13
3rd Street:					
West of Magnolia Avenue	9,620	60.3	119	38	12
East of Magnolia Avenue	10,450	60.6	129	41	13
West of Pacific Avenue	11,530	61.1	142	45	14
Between Pacific Avenue and Pine Street	10,955	60.8	135	43	14
Between Pine Street and Long Beach Boulevard	11,415	61.0	141	45	14

Table 5.5-5 [continued]
Existing Traffic Noise Levels

Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Noise Contour (distance from centerline)		
			60 CNEL	65 CNEL	70 CNEL
3rd Street [continued]:					
Between Long Beach Boulevard and Elm Avenue	11,325	61.0	140	44	14
East of Elm Avenue	10,380	60.6	128	41	13
West of Atlantic Avenue	10,100	60.5	125	39	12
Between Atlantic Avenue and Lime Avenue	10,345	60.6	128	40	13
Between Lime Avenue and Alamitos Avenue	9,720	60.3	120	38	12
East of Alamitos Avenue	7,300	59.1	90	28	9
West of Orange Avenue	7,440	59.2	92	29	9
East of Orange Avenue	7,320	59.1	90	29	9
Broadway:					
West of Magnolia Avenue	12,620	61.5	156	49	16
East of Magnolia Avenue	11,040	60.9	136	43	14
West of Pacific Avenue	12,020	61.3	148	47	15
Between Pacific Avenue and Pine Street	12,410	61.4	153	48	15
Between Pine Street and Long Beach Boulevard	12,195	61.3	151	48	15
Between Long Beach Boulevard and Elm Avenue	11,330	61.0	140	44	14
East of Elm Avenue	11,040	60.9	136	43	14
West of Atlantic Avenue	11,100	60.9	137	43	14
Between Atlantic Avenue and Lime Avenue	11,110	60.9	137	43	14
Between Lime Avenue and Alamitos Avenue	10,750	60.8	133	42	13
Between Alamitos Avenue and Bonita Avenue	13,540	61.8	167	53	17
Between Bonita Avenue and Orange Avenue	13,610	61.8	168	53	17
East of Orange Avenue	14,170	62.0	175	55	17
1st Steet:					
West of Long Beach Boulevard	980	50.4	12	4	1
Between Long Beach Boulevard and Elm Avenue	3,510	55.9	43	14	4
East of Elm Avenue	3,940	65.4	49	15	5
West of Atlantic Avenue	3,380	55.7	42	13	4
Between Atlantic Avenue and Lime Avenue	2,835	55.0	35	11	4
Between Lime Avenue and Alamitos Avenue	2,675	54.7	33	10	3
East 1st Street:					
East of Alamitos Avenue	640	48.5	8	2	1
Medio Street:					
West of Alamitos Avenue	260	44.8	3	1	0
Ocean Boulevard:					
West of Magnolia Avenue	28,640	64.4	353	112	35
East of Magnolia Avenue	29,160	64.7	360	114	36
West of Pacific Avenue	30,140	64.9	373	118	37

Table 5.5-5 [continued]
Existing Traffic Noise Levels

Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Noise Contour (distance from centerline)		
			60 CNEL	65 CNEL	70 CNEL
Ocean Boulevard [continued]:					
Between Pacific Avenue and Pine Street	28,770	64.7	355	112	36
Between Pine Street and Long Beach Boulevard	29,130	64.7	360	114	36
East of Long Beach Boulevard	27,930	64.5	344	109	34
West of Atlantic Avenue	26,340	64.3	325	103	33
Between Atlantic Avenue and Lime Avenue	26,165	64.2	323	102	32
Between Lime Avenue and Alamitos Avenue	25,725	64.2	318	100	32
Between Alamitos Avenue and Bonita Avenue	27,790	64.5	343	108	34
Between Bonita Avenue and Orange Avenue	27,685	64.5	342	108	34
East of Orange Avenue	28,390	64.6	351	111	35

Source: Meyer, Mohaddes and Associates, April 2006.

- Expose persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

- Expose persons to or generate excessive ground borne vibration or ground borne noise levels;

- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels; refer to Section 10.0, *Effects Found Not To Be Significant*.

- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels; refer to Section 10.0, *Effects Found Not To Be Significant*.

SIGNIFICANCE OF CHANGES IN AMBIENT NOISE LEVELS

Changes from over 5.0 dBA may be noticed by some individuals and, therefore may be considered an environmental impact, since under these conditions sporadic complaints may occur. Changes in community noise levels of less than 3.0 dBA are

normally not noticeable and are therefore considered less than significant.[1] Based on this information, the following thresholds have been utilized for this analysis:

- For the project site, exterior noise levels that exceed 60 dBA and interior noise levels that exceed 45 dBA would be considered significant, if no feasible control measures exist.

- On the adjacent network street system, an increase of 5.0 dBA or greater in mobile noise levels occurring from project-related traffic would be significant when the "No project" noise level is below 60 dBA CNEL. Additionally, an increase of 3.0 dBA or greater in noise levels occurring from project-related activities would be significant when the "No Project" noise level is above 60 dBA CNEL. Where the "No Project" noise levels is above 65 dBA, an increase of 1.0 dBA or greater would be significant.

- Stationary noise associated with the operation of any facility within the project area is considered significant if it would create, maintain, cause or allow the sound level, when measured on any other property, to exceed the allowable sound levels within Section 17.26.040(F) of the Municipal Code or Table 5.5-1, *Land Use Compatibility For Community Noise Environments*.

TRAFFIC NOISE

Roadway noise impacts were evaluated using the FHWA RD-77-108 traffic noise model and the Traffic Noise Model 2.5 (TNM 2.5). TNM is an entirely new, state-of-the-art computer program used for predicting noise impacts in the vicinity of highways. It uses advances in personal computer hardware and software to improve upon the accuracy and ease of modeling highway noise, including the design of effective, cost-efficient noise barriers.

TNM contains the following components:

- Modeling of five standard vehicle types, including automobiles, medium trucks, heavy trucks, buses and motorcycles, as well as user-defined vehicles;

- Modeling of both constant-flow and interrupted-flow traffic using a 1994/1995 field-measured database;

- Modeling of the effects of different pavement types, as well as the effects of graded roadways;

- Sound level computations based on a one-third octave-band database and algorithms;

- Graphically-interactive noise barrier design and optimization;

- Attenuation over/through rows of buildings and dense vegetation;

[1] U.S. Environmental Protection Agency, *Public Health and Welfare Criteria for Noise*, July 27, 1973.

- Multiple diffraction analysis;
- Parallel barrier analysis; and
- Contour analysis, including sound level contours, barrier insertion loss contours and sound-level difference contours.

TNM was utilized to determine the noise impacts to proposed buildings within the project site, while the FHWA RD-77-108 model was utilized to determine noise on off-site roadways throughout the area.

5.5.5 IMPACTS AND MITIGATION MEASURES

SHORT-TERM CONSTRUCTION NOISE IMPACTS

- **GRADING AND CONSTRUCTION WITHIN THE AREA WOULD RESULT IN TEMPORARY NOISE AND/OR VIBRATION IMPACTS TO NEARBY NOISE SENSITIVE RECEIVERS.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: Construction activities would potentially include demolition, grading, construction of buildings and paving. The proposed project is anticipated to begin construction in 2006 and would last approximately 34 months, ending in 2009. There are currently five structures on-site with approximately 50,000 square feet of commercial and residential land uses, which would be demolished. The proposed project includes the construction of a mixed-use development involving a 22-story residential tower, a 15- to 19-story building and a 10-story building. The proposed buildings would be situated over a two-story podium of residential, retail and live/work units, resulting in a maximum height of 24-, 21- and 12- stories. The project would result in 358 residential units including live/work spaces, townhomes, apartments and associated amenities. Grading activities would include the excavation and transport of approximately 140,000 cubic yards of soil and aggregate materials to the Puente Landfill in Whittier, California.

Construction activities generally have a short and temporary duration, lasting from a few days to a period of several months. Groundborne noise and other types of construction-related noise impacts would typically occur during the initial site preparation, which can create the highest levels of noise. High groundborne noise levels and other miscellaneous noise levels can be created by the operation of heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, compactors, scrapers and other heavy-duty construction equipment. Table 5.5-6, *Typical Construction Equipment Noise Levels,* indicates the anticipated equipment noise levels during the construction period. Operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts).

Table 5.5-6
Typical Construction Equipment Noise Levels

Type of Equipment	Maximum Level (dBA at 50 feet)
Scrapers	88
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85
dBA = A-weighted decibel.	
Source: Cyril M. Harris, *Handbook of Noise Control,* 1979.	

A reasonable worst-case assumption is that the three loudest pieces of equipment would operate simultaneously and continuously over at least one hour within a focused area of 15 yards of each other. The combined sound level of three of the loudest pieces of equipment (scraper, bulldozer and heavy truck) is 92 dBA, measured at 50 feet from the noise source. Table 5.5-7, *Estimated Construction Noise Area*, assumes this combined source level and summarizes predicted noise levels at various distances from an active construction site. These estimations of noise levels take into account the distance to the receptor, attenuation from molecular absorption and anomalous excess attenuation.

Table 5.5-7
Estimated Construction Noise in the Area

Distance to Receptor (feet)	Sound Level at Receptor (dBA)[1]
50	92
100	86
200	80
400	73
600	69
800	67
1,000	64
1,500	60
2,000	57
2,500	54
3,000	51
4,000	47
dBA = A-weighted decibel.	
1. The following assumptions were utilized: - Basic sound level drop-off rate: 6.0 dB per doubling distance - Molecular absorption coefficient: 0.7 dB per 1,000 feet - Analogous excess attenuation: 1.0 dB per 1,000 feet - Reference sound level: 92 dBA - Distance for reference sound level: 50 feet - Assumes simultaneous operation of 1 grader, 1 heavy truck and 1 bulldozer	

As mentioned in the *Sensitive Receptors* section above, the project site is surrounded by residential and commercial land uses. The nearest residential development is the Artaban Building, located to the west, which is approximately 100 feet away. According to Table 5.5-7, at 100 feet noise levels would be at approximately 86 dBA. This would exceed the City's noise standards of 60 dBA at any period of time. Construction activity would also cause increased noise along access routes to and from the site due to movement of equipment and workers. Daily transportation of construction workers is not expected to cause a significant effect, as this traffic is a minor percentage of the overall traffic volumes in the area.

As stated above, noise sensitive receptors near the construction site would experience periodic excessive noise levels from construction activities; however, these construction-related noise levels would only occur during daytime hours. According to Section 8.80.202 of the *Municipal Code,* during the week (including Federal holidays) construction activities are limited between the hours of 7:00 AM and 7:00 PM. On weekends, construction activities are limited to 9:00 AM and 6:00 PM on Saturdays and are prohibited on Sundays, unless a City issued Work Permit is authorized. Implementation of the recommended mitigation (i.e., engine muffling, placement of construction equipment and strategic stockpiling and staging of construction vehicles) and compliance with the *Municipal Code* requirements, would serve to reduce exposure to significant noise levels.

Adherence to the *Municipal Code* requirements and compliance with the recommended mitigation measures would reduce short-term construction noise impacts. However, periodic noise impacts would remain significant and unavoidable based on the projected noise levels at residential uses surrounding the project.

Mitigation Measures:

N-1 Prior to Grading Permit issuance, the project shall demonstrate, to the satisfaction of the City of Long Beach Planning and Building Department, that the project complies with the following:

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers;
- Construction noise reduction methods such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible;
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers;
- During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors;

- Operate earthmoving equipment on the construction site, as far away from vibration sensitive sites as possible; and

- Construction hours, allowable workdays and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow for surrounding owners and residents to contact the job superintendent. If the City or the job superintendent receives a complaint, the superintendent shall investigate, take appropriate corrective action and report the action taken to the reporting party.

Level of Significance After Mitigation: Significant and Unavoidable.

LONG-TERM (MOBILE) NOISE IMPACTS

- **TRAFFIC GENERATED BY THE PROPOSED PROJECT MAY CONTRIBUTE TO EXISTING TRAFFIC NOISE IN THE AREA AND EXCEED THE CITY'S ESTABLISHED STANDARDS.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: Future development within the project would result in additional traffic on adjacent roadways, thereby increasing vehicular noise in the vicinity of existing and proposed land uses. The "2015 Without Project" and "2015 With Project" were compared for long-term conditions. As previously discussed, an increase of five dBA or greater in noise levels occurring from project-related activities would be significant when the "No Project" noise level is below 60 dBA CNEL. An increase of three dBA or greater in noise levels occurring from project-related activities would be significant when the "No Project" noise level is between 60 to 65 dBA CNEL. Finally, an increase of one dBA or greater would be significant if the "No Project" noise level is above 65 dBA CNEL. Due to the area's urbanized nature, all acoustical modeling assumes a "hard site" which includes parameters for assessing traffic noise conditions in concert with the hardscape and tall buildings that compose much of the surrounding land uses.

YEAR 2015 CONDITIONS

In Table 5.5-8, *Future (2015) Buildout Noise Scenarios*, the noise level (dBA at 100 feet from centerline) depicts what would typically be heard 100 feet perpendicular to the roadway centerline.

As indicated in Table 5.5.8, under the "Future Without Project" scenario, noise levels at a distance of 100 feet from centerline would range from approximately 45.1 dBA to 66.0 dBA. The highest noise levels under "Future Without Project" conditions would occur along Ocean Boulevard west of Pacific and between Pine Street and Long Beach Boulevard. Similar to the "Future Without Project" scenario, under the "Future With Project" scenario noise levels at a distance of 100 feet from the centerline would range from approximately 47.2 dBA to 66.0 dBA. The highest noise levels under future with project conditions would occur along the same roadway segments as the "Future Without Project" scenario.

Table 5.5-8
Future (2015) Buildout Noise Scenarios

Roadway Segment	Future Without Project		Future Plus Project		Difference in dBA @100 Feet from Roadway
	ADT	dBA @ 100 Feet from Roadway Centerline	ADT	dBA @ 100 feet from Roadway Centerline	
Magnolia Avenue:					
North of 7th Street	8,160	59.7	8,140	59.7	0.0
Between 7th Street And 6th Street	9,640	60.4	9,535	60.4	0.0
South of 6th Street	9,370	60.3	9,250	60.2	- 0.1
North of 3rd Street	7,680	59.4	7,580	59.4	0.0
Between 3rd Street and Broadway	8,515	59.9	8,515	59.9	0.0
Between Broadway and Ocean Boulevard	12,570	61.6	12,560	61.6	0.0
South of Ocean Boulevard	4,520	57.1	4,520	57.1	0.0
Chestnut Avenue:					
North of 5th Street	1,1160	51.3	1,160	51.3	0.0
South of 5th Street	1,080	51.0	1,080	51.0	0.0
Cedar Avenue:					
North of 5th Street	2,900	55.3	2,900	55.3	0.2
Between 5th Street and 4th Street	2,425	54.5	2,425	54.5	0.0
South of 4th Street	2,060	53.8	2,060	53.8	0.0
Pacific Avenue:					
North of 7th Street	10,420	60.5	10,420	60.5	0.0
Between 7th Street and 6th Street	10,750	60.7	10,750	60.7	0.0
Between 6th Street and 5th Street	6,660	58.6	6,760	58.6	00
Between 5th Street and 4th Street	6,225	58.3	6,360	58.4	0.1
Between 4th Street and 3rd Street	9,515	60.1	9,510	60.1	0.0
Between 3rd Street and Broadway	9,820	60.3	9,830	60.3	0.0
South of Broadway	11,150	60.8	11,150	60.8	0.0
North of Ocean Boulevard	8,250	59.5	8,250	59.5	0.0
Pine Street:					
North of 7th Street	4,180	56.9	4,180	56.9	0.0
Between 7th Street and 6th Street	4,165	56.9	4,160	56.9	0.0
Between 6th Street and 5th Street	5,105	57.8	5,000	57.7	- 0.1
Between 5th Street and 4th Street	4,825	57.5	4,685	57.4	- 0.1
Between 4th Street and 3rd Street	4,540	57.2	4,540	57.2	0.0
Between 3rd Street and Broadway	5,810	58.3	5,810	58.3	0.0
South of Broadway	6,610	58.9	6,610	58.9	0.0
North of Ocean Boulevard	6,500	58.8	6,500	58.8	0.0
South of Ocean Boulevard	6,770	59.0	6,770	59.0	0.0
Long Beach Boulevard:					
North of 7th Street	16,380	62.3	16,410	62.3	0.0
Between 7th Street and 6th Street	17,640	62.6	17,615	62.6	0.0
Between 6th Street and 5th Street	16,130	62.2	16,095	62.2	0.0
Between 5th Street and 4th Street	15,790	62.1	15,750	62.1	0.0
Between 4th Street and 3rd Street	13,180	61.4	13,145	61.3	-0.1
Between 3rd Street and Broadway	13,165	61.4	13,125	61.3	-0.1

Table 5.5-8 [continued]
Future (2015) Buildout Noise Scenarios

Roadway Segment	Future Without Project		Future Plus Project		Difference in dBA @100 Feet from Roadway
	ADT	dBA @ 100 Feet from Roadway Centerline	ADT	dBA @ 100 feet from Roadway Centerline	
Long Beach Boulevard [continued]:					
Between Broadway and 1st Street	11,650	60.8	11,665	60.8	0.0
Between 1st Street and Ocean Boulevard	9,835	60.1	9,805	60.1	0.0
Elm Avenue:					
North of 7th Street	1,100	51.1	1,100	51.1	0.0
Between 7th Street and 6th Street	1,300	51.8	1,275	51.7	-0.1
South of 6th Street	1,480	56.4	1,450	52.3	-0.1
North of 3rd Street	2,770	55.1	2,730	55.0	-0.1
Between 3rd Street and Broadway	3,260	55.8	3,145	55.7	-0.1
Between Broadway and 1st Street	4,680	57.4	4,615	57.3	-0.1
South of 1st Street	4,800	57.5	4,740	57.4	-0.1
Atlantic Avenue:					
North of 7th Street	12,450	61.4	12,580	61.4	0.0
Between 7th Street and 6th Street	11,430	61.0	11,635	61.1	0.1
Between 6th Street and 5th Street	11,030	60.9	11,245	61.0	0.1
Between 5th Street and 4th Street	10,645	60.7	10,860	60.8	0.1
Between 4th Street and 3rd Street	8,435	59.7	8,650	59.8	0.1
Between 3rd Street and Broadway	7,270	59.1	7,510	59.2	0.1
Between Broadway and 1st Street	6,640	58.7	7,000	58.9	0.2
Between 1st Street and Ocean Boulevard	5,160	57.6	5,900	58.2	0.6
Lime Avenue:					
North of 7th Street	630	48.7	630	48.7	0.0
Between 7th Street and 6th Street	1,230	51.6	1,230	51.6	0.0
Between 6th Street and 5th Street	1,640	52.8	1,640	52.8	0.0
Between 5th Street and 4th Street	905	50.2	950	50.2	0.0
Between 4th Street and 3rd Street	850	50.0	850	50.0	0.0
Between 3rd Street and Broadway	920	50.3	920	50.3	0.0
Between Broadway and 1st Street	1,190	51.4	1,190	51.4	0.0
Between 1st Street and Ocean Boulevard	570	48.2	645	48.8	0.6
Martin Luther King Jr. Avenue:					
North of 7th Street	3,430	55.8	3,430	55.8	0.0
Between 7th Street and 6th Street	7,940	59.5	7,930	59.4	-0.1
Alamitos Avenue:					
North of 7th Street	17,270	62.8	17,440	62.9	0.1
Between 7th Street and 6th Street	23,450	64.2	23,865	64.2	0.0
South of 6th Street	24,220	64.3	24,640	64.4	0.1
North of 3rd Street	23,300	64.1	23,720	64.2	0.1
Between 3rd Street and Broadway	23,760	64.2	24,235	64.3	0.2
Between Broadway and 1st Street	17,570	62.9	18,155	63.0	0.1
Between 1st Street and East 1st Street	15,160	62.3	15,430	62.3	0.0
Between East 1st Street and Medio Street	14,900	62.2	15,160	62.3	0.1
Between Medio Street and Ocean Boulevard	14,535	62.1	14,735	62.1	0.0

Table 5.5-8 [continued]
Future (2015) Buildout Noise Scenarios

Roadway Segment	Future Without Project		Future Plus Project		Difference in dBA @100 Feet from Roadway
	ADT	dBA @ 100 Feet from Roadway Centerline	ADT	dBA @ 100 feet from Roadway Centerline	
Shoreline Avenue:					
South of Ocean Boulevard	13,920	61.5	14,640	61.7	0.2
North of Intersection 68	14,040	61.5	14,750	61.8	0.3
South of Intersection 68	13,960	61.5	14,670	61.7	0.2
Bonita Avenue:					
North of Broadway	420	46.9	450	47.2	0.3
South of Broadway	600	48.5	600	48.5	0.0
North of Ocean Boulevard	620	48.6	620	48.6	0.0
Orange Avenue:					
North of 4th Street	2,480	54.6	2,480	54.6	0.0
Between 4th Street and 3rd Street	2,485	54.6	2,485	54.6	0.0
Between 3rd Street and Broadway	2,510	54.7	2,510	54.7	0.0
South of Broadway	2,880	55.3	2,880	55.3	0.0
North of Ocean Boulevard	1,300	51.8	1,300	51.8	0.0
7th Avenue:					
West of Magnolia Avenue	13,240	61.7	13,240	61.7	0.1
East of Magnolia Avenue	14,870	62.2	14,760	62.1	0.0
West of Pacific Avenue	14,950	62.2	14,850	62.2	0.1
Between Pacific and Pine Street	16,165	62.5	16,080	62.5	0.0
Between Pine Street and Long Beach Boulevard	16,260	62.6	16,165	62.5	0.0
Between Long Beach Boulevard and Elm Avenue	16,115	62.5	16,070	62.5	0.0
East of Elm Avenue	16,360	62.6	16,280	62.6	0.1
West of Atlantic Avenue	17,400	62.9	17,320	62.8	0.0
Between Atlantic Avenue and Lime Avenue	19,370	63.3	19,245	63.3	0.1
Between Lime Avenue and MLK Jr. Avenue	17,560	62.9	17,430	62.9	0.1
Between MLK Jr. Avenue and Alamitos Avenue	21,220	63.7	21,090	63.7	0.0
East of Alamitos Avenue	31,210	65.4	31,320	65.4	0.1
6th Street:					
West of Magnolia Avenue	13,140	61.6	13,140	61.6	0.0
East of Magnolia Avenue	13,280	61.7	13,290	61.7	0.1
West of Pacific Avenue	11,860	61.2	11,860	61.2	0.0
Between Pacific Avenue and Pine Street	13,645	61.8	13,550	61.8	0.0
Between Pine Street and Long Beach Boulevard	14,450	62.1	14,450	62.1	0.1
Between Long Beach Boulevard and Elm Avenue	12,240	61.3	12,245	61.3	0.0
East of Elm Avenue	10,840	60.8	10,840	60.8	0.0
West of Atlantic Avenue	11,040	60.9	11,040	60.9	0.0
Between Atlantic Avenue and Lime Avenue	10,620	60.7	10,620	60.7	0.0
Between Lime Avenue and MLK Jr. Avenue/Alamitos Avenue	11,165	60.9	11,165	60.9	0.0
East of Alamitos Avenue	1,270	51.5	1,270	51.5	0.0

Table 5.5-8 [continued]
Future (2015) Buildout Noise Scenarios

Roadway Segment	Future Without Project		Future Plus Project		Difference in dBA @100 Feet from Roadway
	ADT	dBA @ 100 Feet from Roadway Centerline	ADT	dBA @ 100 feet from Roadway Centerline	
5th Street:					
West of Chestnut Avenue	1,280	51.7	1,270	51.7	0.0
Between Chestnut Avenue and Cedar Avenue	1,640	52.8	1,620	52.8	0.0
Between Cedar Avenue and Pacific Avenue	5,800	58.3	5,790	58.3	0.1
Between Pacific Avenue and Pine Street	4,875	57.6	4,825	57.5	0.0
Between Pine Street and Long Beach Boulevard	1,810	53.3	1,810	53.3	0.1
East of Long Beach Boulevard	1,400	52.1	1,400	52.1	0.0
West of Atlantic Avenue	2,140	54.0	2,140	54.0	0.0
Between Atlantic Avenue and Lime Avenue	2,130	54.0	2,130	54.0	0.0
East of Lime Avenue	2,100	53.9	2,100	53.9	0.0
4th Street:					
West of Cedar Avenue	2,630	54.6	2,610	54.8	0.0
Between Cedar Avenue and Pacific Avenue	2,890	55.3	2,870	55.3	0.0
Between Pacific Avenue and Pine Street	3,220	55.8	3,200	55.7	-0.1
Between Pine Street and Long Beach Boulevard	4,345	57.1	4,340	57.0	-0.1
East of Long Beach Boulevard	7,080	59.2	7,070	59.2	0.2
West of Atlantic Avenue	8,080	59.7	8,060	59.7	0.1
Between Atlantic Avenue and Lime Avenue	8,880	60.2	8,870	60.2	0.2
East of Lime Avenue	9,510	60.5	9,500	60.5	0.3
West of Orange Avenue	12,730	61.7	12,710	61.7	0.1
East of Orange Avenue	12,890	61.8	12,870	61.8	0.1
3rd Street:					
West of Magnolia Avenue	14,580	62.1	14,320	62.0	-0.1
East of Magnolia Avenue	14,860	62.2	14,680	62.1	-0.1
West of Pacific Avenue	16,280	62.6	16,110	62.5	0.2
Between Pacific Avenue and Pine Street	15,345	62.3	15,185	62.3	0.3
Between Pine Street and Long Beach Boulevard	16,945	62.7	16,785	62.7	0.3
Between Long Beach Boulevard and Elm Avenue	15,350	62.3	15,330	62.3	0.1
East of Elm Avenue	14,440	62.0	14,360	62.0	0.2
West of Atlantic Avenue	14,200	62.0	14,110	61.9	0.1
Between Atlantic Avenue and Lime Avenue	14,005	61.9	13,950	61.9	0.1
Between Lime Avenue and Alamitos Avenue	13,480	61.7	13,425	61.7	0.1
East of Alamitos Avenue	8,740	59.9	8,740	59.9	0.1
West of Orange Avenue	8,600	59.8	8,600	59.8	0.1
East of Orange Avenue	8,570	59.8	8,570	59.8	0.1
Broadway:					
West of Magnolia Avenue	20,730	63.6	20,680	63.6	0.0
East of Magnolia Avenue	18,160	63.0	18,120	63.0	0.0
West of Pacific Avenue	19,340	63.3	19,300	63.3	0.0
Between Pacific Avenue and Pine Street	19,970	63.5	19,945	63.5	0.0
Between Pine Street and Long Beach Boulevard	20,130	63.5	20,100	63.5	0.0

Table 5.5-8 [continued]
Future (2015) Buildout Noise Scenarios

Roadway Segment	Future Without Project		Future Plus Project		Difference in dBA @100 Feet from Roadway
	ADT	dBA @ 100 Feet from Roadway Centerline	ADT	dBA @ 100 feet from Roadway Centerline	
Broadway [continued]:					
Between Long Beach Boulevard and Elm Avenue	16,160	62.5	16,180	62.5	0.0
East of Elm Avenue	15,380	62.3	15,400	62.3	0.0
West of Atlantic Avenue	15,440	62.3	15,450	62.3	0.0
Between Atlantic Avenue and Lime Avenue	15,30	62.2	14,945	62.0	-0.2
Between Lime Avenue and Alamitos Avenue	15,145	62.3	15,060	62.2	-0.1
Between Alamitos Avenue and Bonita Avenue	15,450	62.3	15,485	62.4	0.1
Between Bonita Avenue and Orange Avenue	15,545	62.4	15,575	62.4	0.0
East of Orange Avenue	16,180	62.5	16,200	62.5	0.0
1st Steet:					
West of Long Beach Boulevard	1,080	50.8	1,080	50.8	0.0
Between Long Beach Boulevard and Elm Avenue	4,080	56.6	4,130	56.6	0.1
East of Elm Avenue	4,500	57.0	4,540	57.0	0.0
West of Atlantic Avenue	4,110	56.6	4,150	56.6	0.0
Between Atlantic Avenue and Lime Avenue	3,645	56.1	3,850	56.3	0.2
Between Lime Avenue and Alamitos Avenue	3,470	55.9	3,785	56.2	0.3
East 1st Street :					
East of Alamitos Avenue	700	48.9	700	48.9	0.0
Medio Street:					
West of Alamitos Avenue	280	45.1	750	49.4	4.3
Ocean Boulevard:					
West of Magnolia Avenue	35,860	65.6	35,900	65.6	0.0
East of Magnolia Avenue	37,040	65.8	37,080	65.8	0.0
West of Pacific Avenue	38,860	66.0	38,900	66.0	0.1
Between Pacific Avenue and Pine Street	37,550	65.8	37,590	65.8	0.0
Between Pine Street and Long Beach Boulevard	39,420	66.0	39,460	66.0	0.0
East of Long Beach Boulevard	37,920	65.9	37,960	65.9	0.0
West of Atlantic Avenue	36,340	65.7	36,360	65.7	0.0
Between Atlantic Avenue and Lime Avenue	36,200	65.7	36,890	65.7	0.0
Between Lime Avenue and Alamitos Avenue	35,720	65.6	36,475	65.7	0.1
Between Alamitos Avenue and Bonita Avenue	35,540	65.6	35,705	65.6	0.0
Between Bonita Avenue and Orange Avenue	35,430	65.6	35,590	65.6	0.0
East of Orange Avenue	36,180	65.7	36,340	65.7	0.0

Source: Meyer, Mohaddes, and Associates, April 2006.

Table 5.5-8 also compares the "Future Without Project" scenario to the "Future With Project" scenario. The proposed project would increase noise levels on the surrounding roadways by a maximum of 4.3 dBA along roadways with noise levels below 60 dBA. It should be noted that even with the 4.3 dBA increase, the overall noise level would still be below 50 dBA. Thus, as stated under the *Significance Criteria*, when the baseline noise level is less than 60 dBA, an increase in noise levels of less than 5.0 dBA is considered less than significant.

Mitigation Measures: No Mitigation Measures are recommended.

Level of Significance After Mitigation: Less Than Significant.

ON-SITE LONG-TERM (MOBILE) NOISE IMPACTS

- **TRAFFIC GENERATED BY TRAFFIC ALONG THE SURROUNDING ROADWAYS MAY RESULT IN NOISE LEVELS AT THE PROJECT SITE THAT EXCEED THE CITY'S ESTABLISHED STANDARDS FOR RESIDENTIAL LAND USES.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis:

On-Site Noise Conditions

The project is proposed to include residential uses, which are sensitive to traffic related noise. Due to the unique urbanized nature of the project site, on-site noise levels were determined by using the FHWA TNM 2.5 model. This particular noise model simulates the acoustically reflective contours that result from the surrounding building, roadways, sidewalks, and hardscape surfaces. The on-site noise levels have been calculated for the residential uses in the Courtyard Tower, Terrace Tower and Gateway Tower.

Courtyard Tower

Noise levels were calculated at the following locations: 1) units directly facing Ocean Boulevard; 2) units facing the alley; and 3) residential units that would be located behind the parking structure, but facing Ocean Boulevard. As indicated in Table 5.5-9, *On-site Noise Levels at the Courtyard Tower*, units located on the ground floor would be exposed to the highest exterior noise levels. Residential units located towards the back of the Courtyard Tower would have exterior noise levels well below the City's standard and therefore would not require mitigation.

The first two levels (Ground Floor and Mezzanine Level) of the Courtyard Building, facing Ocean Boulevard, would be live/work areas, which are not considered to be sensitive areas. Levels 1 and 2 of the Courtyard Building facing Ocean Boulevard are residential units. According to project site design plans, these units would include balconies. As shown in Table 5.5-9, the exterior noise levels at the proposed balconies would exceed the City's Standards of 60 dBA for a Land Use District 2

area as shown in the City's Noise District Map; refer to Table 5.5-2, *Exterior Noise Limits*. Therefore, exterior noise levels at the proposed residential units facing Ocean Boulevard would be significant and unavoidable. However, interior noise levels within the units facing Ocean Boulevard would comply with the City's 45 dBA noise regulations. Standard building construction practices typically result in 20 dBA of noise attenuation with windows closed.

Table 5.5-9
On-Site Noise Levels at the Courtyard Tower

Floor Level	Exterior Noise Levels (dBA CNEL)[1]		
	Units Fronting Ocean Boulevard	Units Fronting Parking Structure	Units Fronting the Alley
Ground Level	63.1	53.6	51.6
Mezzanine	63.0	53.5	51.5
1	62.9	53.4	51.4
2	62.8	53.3	51.3
3	NA	53.2	51.2
4	NA	53.1	51.1
5	NA	53.0	51.0
6	NA	52.9	50.9
7	NA	52.8	50.8
8	NA	52.7	50.7
9	NA	52.6	50.6
10	NA	52.5	50.5

NA = Not applicable

1 Using site plans provided by the project Applicant, noise levels were calculated at locations within the proposed structures directly facing the surrounding roadways.

Terrace Tower

The Terrace Tower is anticipated to be 15 to 19 levels, with the first two levels serving as a retail use and facing Ocean Boulevard. Similar to the Courtyard Tower, units directly facing Ocean Boulevard would be exposed to exterior noise levels exceeding the City's 60 dBA noise standard; refer to Table 5.5-10, *On-Site Noise Levels at the Terrace Tower*. Exterior noise levels at the proposed Terrace Tower would therefore be significant and unavoidable. However, the interior noise standards would be at or below the City's 45 dBA noise standard with standard building practices.

Table 5.5-10
On-Site Noise Levels at the Terrace Tower

Floor Level	Exterior Noise Levels (dBA CNEL)[1]	
	Units Fronting Ocean Boulevard	Units Fronting the Alley
Ground Level	61.7	51.6
Mezzanine	61.6	51.5
1	61.5	51.4
2	61.4	51.3
3	61.3	51.2
4	61.2	51.1
5	61.1	51.0
6	61.0	50.9
7	60.9	50.8
8	60.8	50.7
9	60.7	50.6
10	60.6	50.5
11	60.5	50.4
12	60.4	50.3
13	60.3	50.2
14	60.2	50.1
15	60.1	50.0
16	60.0	49.9
17	59.9	49.8
18	59.8	49.7
19	59.7	49.6

1 Using site plans provided by the project Applicant, noise levels were calculated at locations within the proposed structures directly facing the surrounding roadways.

Gateway Tower

The Gateway Tower is the tallest building of the three structures on the project site. The Gateway Tower would also include retail on the first two levels of the structure. Similar to the Courtyard and Terrace Towers, residential units facing Ocean Boulevard would be exposed to the exterior noise levels exceeding 60 dBA; refer to Table 5.5-11, *On-Site Noise Levels at the Gateway Tower*. As discussed with the other towers, the Gateway Tower would result in balconies having noise levels above the City's standards of 60 dBA and would be significant and unavoidable. However, the interior noise standards would be at or below the City's 45 dBA noise standard with standard building practices.

Table 5.5-11
On-Site Noise Levels at the Gateway Tower

Floor Level	Exterior Noise Levels (dBA CNEL)[1]			
	Units Fronting the Courtyard	Units Fronting Ocean Boulevard	Units Fronting Alamitos Avenue	Units Fronting Medio Street
Ground Level	54.3	62.9	58.2	56.0
Mezzanine	54.2	62.8	58.1	55.9
1	54.1	62.7	58.0	55.8
2	54.0	62.6	57.9	55.7
3	53.9	62.5	57.8	55.6
4	53.8	62.4	57.7	55.5
5	53.7	62.3	57.6	55.4
6	53.6	62.2	57.5	55.3
7	53.5	62.1	57.4	55.2
8	53.4	62.0	57.3	55.1
9	53.3	61.9	57.2	55.0
10	53.2	61.8	57.1	54.9
11	53.1	61.7	57.0	54.8
12	53.0	61.6	56.9	54.7
13	52.9	61.5	56.8	54.6
14	52.8	61.4	56.7	54.5
15	52.7	61.3	56.6	54.4
16	52.6	61.2	56.5	54.3
17	52.5	61.1	56.4	54.2
18	52.4	61.0	56.3	54.1
19	52.3	60.9	56.2	54.0
20	52.2	60.8	56.1	53.9
21	52.1	60.7	56.0	53.8
22	52.0	60.6	55.9	53.7

1 Using site plans provided by the project Applicant, noise levels were calculated at locations within the proposed structures directly facing the surrounding roadways.

Mitigation Measures: No mitigation measures are recommended.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

LONG-TERM (STATIONARY) NOISE IMPACTS

- **THE PROPOSED PROJECT HAS THE POTENTIAL TO RESULT IN AN INCREASE IN AMBIENT NOISE LEVEL DUE TO THE GENERATION OF ON-SITE NOISE.**

Level of Significance Prior to Mitigation: Less Than Significant.

Impact Analysis: According to the *Long Beach General Plan* Land Use Map, the project area is designated as Mixed Use (LUD No. 7). Land uses intended for the area include employment centers, such as retail, offices and medical facilities; higher density residences; visitor-serving facilities; personal and professional services; and

recreational facilities. Noise associated with operational activities of mixed uses is typically generated by the following sources:

- Trucks traveling on the site, to and from loading docks;
- Mechanical equipment (air conditioners, trash compactors, emergency generators, etc.);
- Typical parking lot activities (i.e., parking lot traffic and car door slamming); and
- Landscape maintenance.

Typically, noise from high rise buildings does not significantly impact adjacent residential uses. Although several noise sources would be introduced, many of them would operate for only very brief time periods. It should be noted that the project is adjacent to District 1 (located east of Alamitos Avenue), which identifies noise limits as 50 dBA (as opposed to 60 dBA for District 2). However, land uses within District 1 are not anticipated to be impacted by the project due to the various project design features and noise attenuation due to distance. Stationary mechanical noise, landscaping, social gatherings and parking lot noise usually do not operate concurrently. Further, it should be noted that the projected noise levels presented below do not account for any noise attenuation due to existing walls, berms, intervening structures or topography. The location of the refuse disposal areas, loading docks and air conditioning units/compressors can be sources of excessive noise. However, this potential impact is for a short time and these areas can be protected from unauthorized use or access.

Residential Uses

Development of the proposed residential units would create new stationary noise typical of any new residential development. Noise that is typical of residential areas includes children playing, pet noise, amplified music, pool and spa equipment and home repair. Noise from residential stationary sources would primarily occur during the "daytime" activity hours of 7:00 AM to 10:00 PM.[2]

Slow-Moving Trucks (Deliveries) and Loading Areas

Noise sources at loading areas may include maneuvering and idling trucks, truck refrigeration units, fork lifts, banging and clanging of equipment (i.e., hand carts and roll-up doors), noise from public address systems and voices of truck drivers and employees. The maximum noise level associated with loading docks is typically 73 dBA at 75 feet. According to project site plans, one loading area is located off Medio Street at the Gateway Towers. The proposed loading area would be sealed to prevent loading activities from impacting sensitive receptors. Furthermore, deliveries and loading and unloading activities shall take place only during daytime hours as specified in Section 8.80.200 of the City's *Municipal Code.* Impacts resulting from loading area activities would be less than significant.

[2] In terms of noise, the City of Long Beach defines daytime hours as 7:00 AM to 10:00 PM.

Mechanical Equipment

The proposed project would require mechanical equipment such as a cooling tower, boiler, pumps and fans for heating, ventilation and air conditioning (HVAC). Currently, there are two possible locations for mechanical equipment. According to site design plans, cooling towers and other equipment would be located on the rooftops of each structure. The buildings range in height from 150 feet at the Courtyard Tower, 230 feet at the Terrace Tower, and approximately 280 feet at the Gateway Tower. The equipment would be oriented away from surrounding high-rise residential developments and would be screened to ensure that noise levels would be below the City's 60 dBA standard for Land Use District 2. Mechanical equipment may also be placed within the subterranean levels of the buildings. The mechanical equipment would then be shielded and would not pose significant impacts to surrounding sensitive receptors. Additionally, compliance with the *2001 California Mechanical Code* and City of Long Beach mechanical code requirements would ensure stationary mechanical noise is less than significant.

Parking Areas

Traffic associated with parking lots is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. However, the instantaneous maximum sound levels generated by a car door slamming, engine starting up and car pass-bys may be an annoyance to adjacent noise-sensitive receptors. Typical noise levels generated by parking areas are an estimated 70 dBA at 50 feet from the source during peak events (this is an "instantaneous" or peak noise level). Parking lot noise would also be partially masked by background noise from adjacent roads and typical community noise sources. Conversations in parking areas may also be an annoyance to adjacent sensitive receptors. Sound levels of speech typically range from 33 dBA at 48 feet for normal speech to 50 dBA at 50 feet for very loud speech. The proposed parking facility is primarily a subterranean parking facility, and therefore would not be in direct line of site of any of the proposed retail or residential units. Therefore parking lot noise impacts are anticipated to be less than significant.

Mitigation Measures:

N-2 The proposed project shall be required to adhere to Chapter 8.80.200 of the *Municipal Code,* which prohibits loading dock activities and the use of refuse disposal areas between the hours of 10:00 PM and 7:00 AM.

Level of Significance After Mitigation: Less Than Significant.

5.5.6 CUMULATIVE IMPACTS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS WOULD NOT RESULT IN CUMULATIVELY CONSIDERABLE NOISE IMPACTS.**

Level of Significance Prior to Mitigation: Less Than Significant Impact.

Impact Analysis:

Cumulative Construction Noise

Of the 38 related projects that have been identified within the project study area, the Applicant has no control over the timing or sequencing of related projects, and as such, any quantitative analysis to ascertain the daily construction emissions that assumes multiple, concurrent construction would be speculative. Construction-related noise for the proposed project and each related project would be localized. In addition, it is likely that each of the related projects would have to comply with the local noise ordinance, as well as mitigation measures that may be prescribed pursuant to CEQA provisions that require significant impacts to be reduced to the extent feasible. Thus, as construction noise is localized in nature and drops off rapidly from the source, a significant cumulative construction related noise impact would not result.

Cumulative Operational Noise

Forecast year 2015 without project traffic volumes were derived by applying an annual growth rate of 1.0 percent per year to existing traffic volumes to account for 9 years of cumulative traffic growth in the City of Long Beach. Additionally, the City provided a list of pending and approved developments within the influenced area; refer to Section 5.3, *Traffic and Circulation*. The list also provided key information concerning the location, number of units or square footage and percent complete for each project. For this analysis, all related projects were assumed to be completed by the Year 2015. As noted previously, the noise analysis utilized these traffic volumes to determine potential impacts during buildout conditions.

Based upon the results of the traffic analysis, noise levels at a distance of 100 feet from centerline would range from approximately 47.2 to 66.0 dBA under the "2015 With Project" scenario; refer to Table 5.6-8. Table 5.6-8 also compares the "2015 Without Project" scenario to the "2015 With Project" scenario. The maximum noise increase as a result of the proposed project is 4.3 dBA (for an overall resultant noise level of 49.4 dBA). Since the "Without Project" noise level would be below 65 dBA CNEL, a noise level increase of less than 5.0 dBA is considered a less than significant impact to noise levels along this local roadway. As the traffic volumes assessed in Table 5.6-8 included cumulative conditions, a less than significant mobile source noise impact would occur.

Additionally, the proposed project would not result in stationary long-term equipment that would significantly effect surrounding sensitive receptors. Furthermore, future development proposals within the City of Long Beach would require separate discretionary approval and CEQA assessment, which would address potential noise impacts and identify necessary attenuation measures, where appropriate. Thus, cumulative noise exposure would be considered a less than significant impact.

Mitigation Measures: No mitigation measures are recommended.

Level of Significance After Mitigation: Not applicable.

5.5.7 SIGNIFICANT UNAVOIDABLE IMPACTS

Despite compliance with mitigation measures, the proposed project would result in significant and unavoidable impacts regarding exposure to construction noise, due to the proximity of sensitive receptors to the project site. Construction activity could exceed the City's noise standards of 60 dBA at any period of time. Additionally, due to forecast traffic levels, on-site noise at the outdoor balconies would exceed the allowable limits established by the City and would result in a significant impact.

If the City Long Beach approves the project, the City shall be required to cite their findings in accordance with Section 15091 of CEQA and prepare a Statement of Overriding Considerations in accordance with Section 15093 of CEQA.

5.6 HAZARDS AND HAZARDOUS MATERIALS

This section of the EIR evaluates impacts related to hazards and hazardous materials, including potential human health effects on people living and working at, or in the vicinity of, the project site. The analysis presented in this section is based on information contained in the Phase I Environmental Assessment Shoreline Gateway Project (Phase I) (August 2005), prepared by SCS Engineers; refer to Appendix 15.7, *Phase I Environmental Assessment*. The Phase I addresses potential impacts related to the physical condition of the project site and adjacent areas due to past activities and uses. The analysis includes a review of historic and existing on-site land uses and their associated activities.

5.6.1 ENVIRONMENTAL SETTING

The following describes the physical setting of the project site, based, in part, on information contained in the Phase I report.

Land Uses

The project site is comprised of approximately 2.2 acres and is occupied by a mix of office, retail, restaurant and multi-family residential buildings and parking lots.

Physiographic Setting

According to U.S. Geological Survey (USGS) maps, the project site is located at an elevation of approximately 35 feet above mean sea level (msl), approximately 0.2 miles north of San Pedro Bay. The regional topography shows the area as relatively flat, with a gentle slope to the south toward the ocean.

Geology and Soils

Geologic maps indicate that surface soils in the area are part of the Late Pleistocene Lakewood Formation, continental and/or marine sediments consisting of gravel, sand, sandy silt, silt and clay with shale pebbles. The Lakewood Formation extends up to 100 feet below grade. The Lakewood Formation is underlain by at least several thousand feet of mostly marine sediments of the Late Pleistocene San Pedro Formation. In the area of the project site, surface deposits are primarily fine-grained sediments comprised of sands, silts and clays.

Groundwater

The project site is located in the southeastern portion of the West Coast Groundwater Basin. Groundwater in the vicinity of the project site is approximately 30 to 50 feet below grade. There are no known regional groundwater contamination problems in the area. However, groundwater has been impacted locally by saltwater intrusion and is not used as a drinking water source. Groundwater in the area is anticipated to flow southerly.

Radon

According to California's Department of Health Service's October 2002 report (Radon Database for California), screening in the area of the site found no locations where buildings had radon levels in excess of the Environmental Protection Agency (EPA) action level. The alluvial geology of the coastal Long Beach area is not normally associated with elevated radon levels. Elevated radon gas is not expected in the area of the project site.

HAZARDOUS MATERIALS

The Phase I (August 2005) was prepared to evaluate the potential presence of hazardous materials and the expected nature of the materials that may be on the subject properties. Based on the observations during the review of historical topographical maps, historical photographs, fire insurance maps, review of governmental agency file information and site reconnaissance, the following environmental conditions were determined to occur.

Historical Site Usage

According to the historical topographic map issued by the USGS (1964, photorevised 1981), the project site is depicted as urban development with no landmark buildings shown.

Historical aerial photographs of the project site identify development activities that have occurred in the past. A 1945 aerial photograph illustrates a number of buildings of unknown uses. Buildings also occupied current parking lot locations. Aerial photographs from 1953, 1958 and 1963 indicate no appreciable change when compared to the previous photographs. Buildings identified on earlier photographs were no longer visible in 1972 aerial photography. A 1989 aerial photograph shows most of the site matching its current configuration, with the exception of the eastern portion of the project site. A 1997 aerial photograph illustrates the project site in its current configuration. A 2004 aerial photograph indicates no change to the project site when compared to the 1997 aerial photograph.

Sanborn fire insurance maps were also reviewed to obtain additional information regarding development activities that have occurred in the past. The 1898 map illustrates the western portion of the site, which was predominantly vacant with the exception of a dwelling located on the lot at 40 Atlantic Avenue (previously 78-79 Atlantic Avenue). The 1902 map illustrates the western portion of the project site with vacant lots and dwellings and the eastern portion of the site with a vacant lot (with the exception of a small shed) bisected by railroad tracks. The 1905 map illustrates the project site as unchanged from the 1902 map with the exception of an additional dwelling within the eastern portion of the site. Uses illustrated in the 1908 map remained unchanged from the 1905 map. The 1914 map illustrates similar uses on the eastern portion of the site to those viewed in the 1908 map. However, several dwellings and apartment buildings occupied the western portion of the site. The apartment at the corner of Lime Avenue and Ocean Boulevard appears to be similar to the apartment building currently at that location. The 1949 map illustrates the eastern portion of the site with a restaurant and auto service facility. Additionally, the

railroad tracks are no longer present. Apartments and stores occupy the western portion of the site. The buildings at 40 Atlantic Avenue and 635 and 645 Ocean Boulevard appear to match the buildings currently at those addresses. The 1950 map illustrates similar uses to those viewed in the 1949 map. The 1969 map illustrates similar uses on the western portion of the site, to those viewed in the 1950 map.

In addition to the historic aerial photographs and maps identified above, building permit information from the Long Beach Department of Building and Safety and City directories for various years between 1926 and 1968 were reviewed. The following provides a summary of the historical uses based on these records:

- 40 Atlantic Avenue (APN 7281-023-011). This portion of the project site was occupied by a dwelling from at least 1898 through 1914. In 1921, an auto storage garage (for the Artaban apartments) was constructed on the lot. The garage remained through at least 1932. From 1940 through 1945, the site appears to have been vacant, although there may have been a store on the lot in early 1940. The office building currently occupying the lot was constructed in 1945 to 1946.

- 19-39 Lime Avenue (APNs 7281-023-010, 016 and 017). In 1898, these parcels were vacant. From at least 1902 through 1908, a dwelling occupied the lot and in 1914 the lot was vacant. By 1926, a market had been constructed on the lot and remained in business through at least 1968. The lot appeared to be vacant by 1972 and is currently a parking lot.

- 615, 619, 635 and 645 East Ocean Boulevard (APNs 7281-023-013, 014 and 015). The lots on Ocean Boulevard between Atlantic and Lime Avenues were vacant or occupied by individual dwellings from at least 1898 through 1908. By 1914, several apartment buildings were present on these parcels. From 1914 through the 1960s, various apartment buildings were located at 615, 619, 621, 635 and 645 Ocean Boulevard. At some point between 1945 and 1949 and 1908 and 1914, the existing apartment buildings located at 635 and 645 Ocean Boulevard, respectively, were constructed. The existing Long Beach Café building was constructed in 1970.

- 725-777 East Ocean Boulevard (APN 7281-022-901). This parcel was essentially undeveloped through 1902. By 1905, one dwelling had been constructed and occupied the site through at least 1914. By 1926, a service station had been constructed on the parcel and remained in operation through at least 1969. By 1948, a restaurant had also been constructed on the parcel (adjoining the west side of the service station). The restaurant was in operation through at least 1969. In 1974, a temporary bank building was erected on the parcel, with a permanent bank building constructed in 1976. The existing video store occupies this former bank building.

Regulatory Records Review

Local regulatory agencies and other sources were contacted in an effort to identify any known or suspected contamination sites or incidents of hazardous waste storage or disposal which might have resulted in soil or groundwater contamination within a one-mile radius of the project site. The Long Beach Fire Department (LBFD) delegates hazardous materials responsibilities to two departments: The LBFD and the City of Long Beach Department of Health and Human Services (DHHS). The LBFD oversees the Hazardous Materials Inspection/Business Plan Program, the Underground Storage Tank Program (tank monitoring, install and removals) and the Aboveground Storage Tank Spill Prevention Program. The Long Beach DHHS oversees the Hazardous Waste Generator Inspection Program, the Underground Storage Tank Program (site mitigation), the California Accidental Risk Prevention (CalARP) Program and the Aboveground Storage Tank Spill Prevention Program. Files may also be maintained by the Department of Toxic Substances Control (DTSC) and the California Regional Water Quality Control Board (RWQCB). The DTSC maintains files for sites in which the DTSC regulated hazardous waste and conducted and oversaw cleanup. The U.S. EPA authorizes the DTSC to implement the Resource Conservation and Recovery Act (RCRA) Program in California, in which the main focus is to ensure the safe storage, treatment, transportation and disposal of hazardous waste. However, if a property has impacted groundwater, the RWQCB generally becomes the lead agency for contamination characterization and cleanup.

Long Beach Fire Department

Due to the historical site review, which identified a former service station at 725 East Ocean Boulevard (the current video store site at the corner of Ocean Boulevard and Alamitos Avenue), a search was made of the LBFD files. The file index indicates that in January 1972, four underground storage tanks (USTs) (two 6,000 gallon tanks, one 4,000 gallon tank and a 550 gallon waste oil tank) were removed from a Standard Oil facility at the address. However, the LBFD has no further records for this location. The index also indicated that there was no information on the original installation. State and county regulatory agencies, which were contacted as part of the assessment, could not provide additional files for this address.

Regulatory Database Sites

A database search for sites listed on various Federal and State databases within one mile of the project site was obtained from Environmental Data Resources, Inc. (EDR); refer to Appendix 15.7, *Phase I Environmental Assessment*.

The purpose of this research was to determine if sites are located within the project site boundaries or within a 0.25-mile radius that have been reported as contaminated or that generate hazardous materials. A summary description of the databases searched within the corresponding search radii is provided below.

Federal Listings - EPA

- Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS). The CERCLIS database contains data on

potentially hazardous waste sites that have been reported to the U.S. EPA by states, municipalities, private companies and private persons pursuant to Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites that are in the screening and assessment phase for possible inclusion on the NPL.

- Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS/NFRAP). As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL or the contamination was not serious enough to require Federal superfund action of NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so the EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affect citizens to promote economic redevelopment of unproductive urban sites.

- Delisted NPL. This is a database of sites that may be deleted from the National Priorities List when no further response is appropriate. The criterion used by the EPA to delete sites from the NPL is established by the National Oil and Hazardous Substances Pollution Contingency Plan.

- Emergency Response Notification System (ERNS). ERNS records and stores information on reported releases of oil and hazardous substances.

- Facility Index System/Facility Identification Initiative Program Summary Report (FINDS). The FINDS database contains both facility information and 'pointers' to other sources that contain more detail. The following FINDS databases are included in the report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket use to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-Docket (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes) and PADS (PCB Activity Data System).

- Federal Insecticide, Fungicide, and Rodenticide ACT (FIFRA)/Toxic Substances Control ACT (TSCA) Tracking System (FTTS INSP). This database tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act).

- Federal Superfund Liens (NPL Liens). Under the authority granted the USEPS by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

- Hazardous Material Information Reporting System (HMIRS). HMIRS contains hazardous material spill incidents reported to DOT.

- Material Licensing Tracking System (MLTS). The MLTS database is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements.

- Mines Master Index File (MINES). This database is maintained by the Department of Labor, Mine Safety and Health Administration.

- National Priorities List (NPL). The National Priorities List (NPL) is the United States Environmental Protection Agency's (USEPA) database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site, or meet three specific criteria set jointly by the U.S. Department of Health and Human Services and the USEPA in order to become an NPL site.

- PCB Activity Database System (PADS). The database identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

- Proposed National Priorities List (Proposed NPL). This database, maintained by the EPA, lists all proposed national priority list sites. A national priority site is an uncontrolled or abandoned hazardous waste site identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site or meet three specific criteria set jointly by the U.S. Department of Health and Human Services and the USEPA in order to become an NPL site.

- RCRA Administrative Action Tracking System (RAATS). This database contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. The EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made is impossible to continue to update the information contained in the database.

- RCRA Corrective Action Report (CORRACTS). The USEPA maintains this database of Resource Conservation and Recovery Act (RCRA) facilities that are undergoing "corrective action." A "corrective action order" is issued

pursuant to RCRA Section 3008(h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility's boundary and can be required regardless of when the release occurred, even if it predated RCRA.

- RCRA Registered Small or Large Generators of Hazardous Waste (GNRTR). The RCRA Large and Small Quantity Generators database is a compilation by the USEPA of facilities, which report generation, storage, transportation, treatment or disposal of hazardous waste.

- Records of Decision (ROD). ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

- Superfund (CERCLA) Consent Decrees (CONSENT). These are major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. They are released periodically by United States District Courts after settlement by parties to litigation matters.

- Toxic Release Inventory System (TRIS). All facilities that manufacture, process or import toxic chemicals in quantities in excess of 25,000 pounds per year are required to register with the USEPA under Section 313 of the Superfund Amendments and Reauthorization Act (SARA Title III) of 1986. Data contained in the Toxic Release Inventory (TRI) system covers approximately 20,000 sites and 75,000 chemical releases.

- Toxic Substances Control Act (TSCA). This database identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

State of California Listings

- Aboveground Petroleum Storage Tank Facilities (AST). This is a database of registered aboveground storage tanks. It is maintained by the State Water Resources Control Board.

- Annual Workplan Sites (AWP). California DTSC's Annual Workplan identifies known hazardous substance sites targeted for cleanup. The source of this database is the California Environmental Protection Agency.

- Cal-Sites. This database contains both confirmed and potential hazardous substance release properties.

- California Hazardous Material Incident Reports System (CHMIRS). CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

- California Facility Inventory Database (CA FID UST). The Facility Inventory Database (FID) contains a historical listing of active and inactive underground

storage tank locations for the State Water Resource Control Board. Refer to local/county sources for current data.

- CA UST. This database contains information gathered from the local regulatory agencies on active UST facilities

- California Waste Discharge System (CA WDS). This database lists sites that have been issued waste discharge requirements.

- "Cortese" California Hazardous Material Incident Report System (CORTESE). The California Environmental Protection Agency/Office of Emergency Information maintains this database. CORTESE sites are identified public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release and all solid waste disposal facilities from which there is known migration.

- Cleaners. This is a list of dry cleaning related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, garment pressing and cleaners' agents, linen supply, coin-operated laundries and cleaning, dry cleaning plants except rugs, carpet and upholster cleaning, industrial launderers, laundry and garment services.

- Hazardous Waste Information System (HAZNET). The database contains notification of facility and manifest data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. Data are from the manifests submitted without correction and, therefore, many contain some invalid values for data elements such as generator ID, TSD ID, waste category and disposal method.

- Historical Underground Storage Tanks (HIST UST). This is a database of historical listings of underground storage tanks. Refer to local/county source for current data.

- Leaking Underground Storage Tanks (LUST). This database is provided by the California Environmental Protection Agency.

- Proposition 65 Records (Notify 65). This database contains facility notifications about any release that could impact drinking water and thereby expose the public to a potential health risks.

- Solid Waste Information System SWL/LF (SWIS)). This database typically contains an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

- Toxic Pits. This database identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

- Underground Storage Tank (UST). This database contains information on active underground storage tanks facilities. The information is gathered from the local regulatory agencies.

- Waste Management Unit Database (WMUDS/SWAT). The WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Schedules Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 Information, Chapter 15 Monitoring Parameters, TPCA Program Information, Closure Information and Interested Parties Information.

Public Records

ON-SITE

Public records identified one listed regulatory site within the project site.

- 725 East Ocean Boulevard.

OFF-SITE

Public records identified six regulatory sites within a 0.25-mile radius of the project site.

- 10 Atlantic Avenue;
- 805 East Ocean Boulevard;
- 200 Alamitos Avenue;
- 740 East Broadway;
- 210 Alamitos Avenue; and
- 125 Elm Avenue.

Over 40 unmappable sites were identified according to the zip code. Unmappable sites cannot be plotted due to inaccurate or incomplete addresses. Based upon review of the data, including the estimated locations of the unmappable sites in relation to the project site, it is unlikely that the unmappable sites have adversely affected the project site.

Site Reconnaissance

On August 2, 2005, SCS Engineers conducted a site reconnaissance, to visually observe the area and surrounding properties. The objective of the site reconnaissance was to obtain information indicating the likelihood of identifying a Recognized Environmental Condition (REC) in connection with the property. A REC is defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release or a material threat of a release into structures or into the ground, groundwater or surface water on the property.

The eastern portion of the project site is occupied by a video store and associated parking. The western portion of the project site is occupied by a single-story brick office building, a single story restaurant, two multi-story apartment buildings and associated parking lots. With the exception of small areas of landscaping, the project site is entirely paved. Two alleys, Broadway Court and Bronce Way, traverse the western portion of the site. Runoff from the site drains to the surrounding streets. No obvious RECs were observed in any of the outside areas. Building interiors were not accessible for inspection.

No hazardous substances were observed in any exterior areas. As noted, building interiors were not inspected, however, the types of land uses observed are not typically associated with extensive hazardous material usage. No obvious signs of past hazardous material use (i.e., stained or degraded paving, etc.) or evidence of USTs (i.e., vent pipes, patches in asphalt, fill ports, etc.) were observed on the project site. No monitoring or water supply wells or any evidence of borings were observed on the site. Additionally, no above ground transformers or other electrical equipment were observed.

OTHER POTENTIAL SOURCES OF HAZARDOUS MATERIALS

Asbestos-Containing Building Materials

Asbestos is a strong, incombustible and corrosion-resistant material that was used in many commercial products, beginning before the 1940s and continuing until the early 1970s. Asbestos Containing Building Materials (ACBMs) are building materials containing more than one percent asbestos. Although the manufacture of most ACBMs ended in the late 1970s, existing inventories of products could still be used. Additionally, a few (ACBMs) are still being manufactured (i.e., certain roofing materials, cement-asbestos pipe, etc.). In general, buildings constructed prior to 1985 have the greatest potential for friable and non-friable ACBMs. If inhaled, asbestos fibers can result in serious health problems. The existing buildings within the project site were constructed prior to 1985. Therefore, the potential for ACBMs to be found at the site (i.e., in roofing felt, vinyl flooring, dry wall mud, transit sheet or pipe, etc.) is considered likely.

Lead-Based Paints

Until 1978, when the U.S. Consumer Product Safety Commission (CPSC) phased out the sale and distribution of residential paint containing lead, many homes were treated with paint containing some amount of lead. It is estimated that over 80 percent of all housing built prior to 1978 contains some lead-based paint (LBP). The mere presence of lead in paint may not make a material to be considered hazardous. In fact, if in good condition (no flaking or peeling), most intact LBP is not considered to be a hazardous material. In poor condition, LBPs can create a potential health hazard for building occupants, especially children. The existing buildings within the project site were constructed prior to 1978. Therefore, the potential for lead-based paints (LBPs) to be found within the project site is considered likely.

ADJACENT PROPERTIES

No obvious RECs were observed on any of the immediately adjoining properties. However, a service station with USTs is located east of the project site, at the northeast corner of Alamitos Avenue and Ocean Boulevard.

5.6.2 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form, which includes questions relating to hazards and hazardous materials. The criteria presented in the Initial Study Environmental Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter miles of an existing or proposed school (refer to Section 10.0, *Effects Found Not To Be Significan*t);
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in the area (refer to Section 10.0, *Effects Found Not To Be Significant*);
- Be located within the vicinity of a private airstrip, and/or result in a safety hazard for people residing or working in the area (refer to Section 10.0, *Effects Found Not To Be Significant*);
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (refer to Section 10.0, *Effects Found Not To Be Significant*); or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized study areas or where residences are intermixed with wildlands (refer to Section 10.0, *Effects Found Not To Be Significant*).

Based on these standards, the effects of the proposed project have been categorized as either a “less than significant impact” or a “potentially significant impact.” Mitigation measures are recommended for potentially significant impacts. If

a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact.

5.6.3 IMPACTS AND MITIGATION MEASURES

HAZARDOUS MATERIALS – HISTORIC AND EXISTING USES

- **DEVELOPMENT OF THE SHORELINE GATEWAY PROJECT COULD CREATE A RISK TO THE PUBLIC OR THE ENVIRONMENT ASSOCIATED WITH EXISTING CONTAMINATION, LISTED HAZARDOUS MATERIALS SITES OR HAZARDOUS MATERIALS RELEASES.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: The following is a summary of the findings of the Phase I Environmental Assessment and the environmental conditions that were determined to occur:

Historical Site Usage

Based upon an evaluation of the documented land uses on the project site (i.e., a former service station located at 725 East Ocean Boulevard), the potential that adverse environmental conditions were created by previous uses is considered high.

Records Search

Public records identified one listed regulatory site within the project site and six regulatory sites within a 0.25-mile radius of the project site.

The property located at 725 East Ocean Boulevard is identified as a UST site. As noted, a service station was formerly located on this site. With the exception of a notation in a LBFD index, there are no records associated with the removal of USTs from the site. Implementation of recommended mitigation measures to verify any releases that may have occurred from these tanks and to identify and comply with appropriate remediation, if applicable, would reduce impacts to a less than significant level.

The following six sites were identified as sites of potential concern within 0.25 miles of the project site:

- 10 Atlantic Avenue – The Artaban apartment building, located adjacent to the western portion of the project site, is identified as a UST site. The apartment building has a tank for an emergency generator. However, there have been no reports of releases from the tank and no impacts to the project site are anticipated from the tank.

- 805 East Ocean Boulevard – The Unocal station, located east of the project site at the northeast corner of Alamitos Avenue and Ocean Boulevard, is identified as a leaking underground storage tanks (LUST) and Cortese site.

A release of gasoline from a UST at this property was reported in 1988. The release impacted soils and groundwater. A vapor extraction system was installed to remove the gasoline and the case was closed in 1997. A gasoline release reported in 2000 is currently under investigation. These releases could have impacted soil vapor or groundwater beneath the eastern portion of the project site, resulting in a potentially significant impact.

- 200 Alamitos Avenue – This site (approximately 0.15 miles northeast of the project site) is identified as a LUST site. Soils were impacted as a result of a release from a UST at this site. The contaminated soil was removed and the case was closed in 1986. Because of the limited impact and the status of the case, no impacts to the project site are anticipated from this release.

- 740 East Broadway – This site (approximately 0.15 miles north/northeast of the project site) is identified as a voluntary cleanup program site. The site was occupied by a manufactured gas plant in 1902. The site has been investigated and contaminated soils have been removed. A "no further action" status was given to the site in 1997. Because of the nature of the contaminants typically found at former manufactured gas plants (i.e., polynuclear aromatic hydrocarbons), the distance from the project site and the regulatory status, no impacts to the project site are anticipated from this site.

- 210 Alamitos Avenue – This site (approximately 0.15 miles north/northwest) is identified as a LUST and Cortese site. In 1993, a release of gasoline from a UST was reported at this site. A vapor extraction system was implemented and the site is currently in a monitoring phase. Due to the distance from the project site, no impacts are anticipated from this release.

- 125 Elm Avenue – This site (approximately 0.25 miles northwest of the project site) is identified as a LUST and Cortese site. A release of gasoline from a UST at this site was reported in 1988. Both soils and groundwater were impact. Contaminated soils were excavated and removed from the site and the case was closed in 1998. Because of the distance from the project site and the status of the case, no impacts to the project site are anticipated from this release.

The service station located at 805 East Ocean Boulevard has experienced several releases from USTs that have impacted soils and groundwater beneath the site. Due to the proximity of this service station to the project site, soil vapor and groundwater beneath the site may have been impacted by these releases. Implementation of recommended mitigation measures including review of files by a qualified hazardous materials consultant to delineate the vertical and lateral extent of contamination relevant to the project site would reduce impacts to a less than significant level.

Site Reconnaissance

Residential, retail, office, restaurant and parking uses are located within the project site. No hazardous substances were observed in any exterior area. As noted,

building interiors were not inspected, however, the types of land uses observed are not typically associated with extensive hazardous material usage. No obvious signs of past hazardous material use (i.e., stained or degraded paving, etc.) or evidence of USTs (i.e., vent pipes, patches in asphalt, fill ports, etc.) were observed on the project site. No monitoring or water supply wells or any evidence of borings were observed on the site. Additionally, no aboveground transformers or other electrical equipment were observed.

Asbestos-Containing Building Materials (ACBMs)

Given the age of the buildings within the project site, it is likely that they could contain ACBMs. The National Emission Standards for Hazardous Air Pollutants (NESHAP) mandates that building owners conduct an asbestos survey to determine the presence of ACBMs prior to the commencement of any remedial work, including demolition. If ACBMs are found, abatement of asbestos would be required prior to any demolition activities. Compliance with mitigation requiring an asbestos survey and asbestos abatement, as well as compliance with SCAQMD Rule 1403, would reduce potential impacts to a less than significant level.

Lead Based Paint

Lead-based paint would likely be found in existing buildings constructed prior to 1978. If, during demolition of the structures, paint is separated from the building material (chemically or physically), a potential health hazard could occur for building occupants. This potential impact is considered significant unless mitigated. Following compliance with mitigation requiring an independent evaluation and paint abatement, as well as compliance with CCR Title 8, Section 1532.1, potential impacts would be reduced to a less than significant level.

Mitigation Measures:

HAZ-1 The interior of individual on-site structures shall be visually inspected prior to any demolition or construction activities. Should hazardous materials be encountered within the project site, the materials shall be tested and properly disposed of in accordance with State and Federal regulatory requirements. Any stained soils or surfaces underneath the removed materials shall be sampled. Results of the sampling shall indicate the appropriate level of remediation efforts that may be required.

HAZ-2 Prior to construction activities, the presence or absence of the reported historic on-site underground storage tanks (USTs) shall be verified. If on-site, the USTs shall be removed and properly disposed of at an approved landfill facility. Once the tanks are removed, a visual inspection of the areas beneath and around the removed USTs shall be performed. Any stained soils observed underneath the USTs shall be sampled. Results of the sampling (if necessary) would indicate the level of remediation efforts that may be required.

HAZ-3 Prior to construction activities, a qualified hazardous materials consultant with Phase II and Phase III experience shall review files for the adjacent

service station property across the street, which has reported subsurface releases. The file review shall delineate the vertical and lateral extent of contamination relevant to the project site.

HAZ-4 If unknown wastes or suspect materials are discovered during construction by the contractor, which he/she believes may involve hazardous waste/materials, the contractor shall:

- Immediately stop work in the vicinity of the suspected contaminant and remove workers and the public from the area;
- Notify the Project Engineer of the implementing Agency;
- Secure the areas as directed by the Project Engineer; and
- Notify the implementing agency's Hazardous Waste/Materials Coordinator.

HAZ-5 Prior to demolition work, an asbestos survey shall be conducted to determine the presence or absence of asbestos. The results of the survey shall be submitted to the City of Long Beach.

HAZ-6 If ACBMs are located, abatement of asbestos shall be completed prior to any demolition activities that would disturb ACBMs or create an airborne asbestos hazard. Any demolition of the existing buildings shall comply with State law, which requires a certified contractor, where there is asbestos-related work involving 100 square feet or more of ACBMs, and that certain procedures regarding the removal of asbestos be followed.

HAZ-7 If during demolition of the structures, paint is separated from the building material (e.g., chemically or physically), the paint waste shall be evaluated independently from the building material to determine its proper management. According to the Department of Substances Control, if paint is not removed from the building material during demolition (and is not chipping or peeling), the material could be disposed of as construction debris (a non-hazardous waste). The landfill operator shall be contacted in advance to determine any specific requirements they may have regarding the disposal of lead-based paint materials.

Level of Significance After Mitigation: Less Than Significant Impact.

HAZARDOUS MATERIALS – PROPOSED USES

- **OPERATION OF THE SHORELINE GATEWAY PROJECT COULD CREATE A RISK TO THE PUBLIC OR THE ENVIRONMENT THROUGH CONDITIONS INVOLVING HAZARDOUS MATERIALS (I.E., ROUTINE USE/TRANSPORT OR ACCIDENT CONDITIONS) ASSOCIATED WITH PROPOSED USES.**

Level of Significance Prior to Mitigation: Less Than Significant Impact.

Impact Analysis: The proposed project would involve development of residential and retail uses within the project site. Operation of the proposed project is not anticipated to involve the routine use, storage, disposal or transportation of acutely

hazardous materials. However, secondary activities that would occur on-site (i.e., building and landscape maintenance) would involve the use of hazardous materials, such as cleaning and degreasing solvents, fertilizers, pesticides and other materials used in the regular maintenance of buildings and landscaping. Such use of hazardous materials, although not expected to pose a risk to people residing or working in the area, could result in potentially significant impacts if not property used, stored, transported or disposed. Title 8, *Health and Safety*, of the City's *Municipal Code*, identifies standards and regulations regarding the storage, handling, use and disposal of hazardous materials. Any storage, handling, use and disposal of hazardous materials would be subject to City, State and Federal regulatory requirements for the proper disposal of wastes. Therefore, impacts associated with the routine use of hazardous materials are considered less than significant following compliance with the City's *Municipal Code* provisions and compliance with City, State and Federal regulatory requirements.

Mitigation Measures: No mitigation measures are recommended.

Level of Significance After Mitigation: Not applicable.

5.6.4 CUMULATIVE IMPACTS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS WOULD NOT RESULT IN CUMULATIVELY CONSIDERABLE HAZARDS AND HAZARDOUS MATERIALS IMPACTS.**

Level of Significance Prior to Mitigation: Less Than Significant Impact.

Impact Analysis: Because hazards and hazardous materials impacts are site-specific, the potential for cumulative impacts is remote. Impacts on the public and the environment from on-site hazards would be limited to those occurring on-site and would not be compounded or exacerbated by hazards created by development of related cumulative projects in and around the City of Long Beach. Possible exceptions, however, include potential toxic air contaminant emissions, transportation of hazardous materials and waste disposal. The need to respond to hazardous materials emergencies could also increase as a result of cumulative development.

Toxic Air Contaminant Emissions. Cumulative development could increase the overall concentrations of toxic air contaminants in the City of Long Beach, and project-related stationary and mobile emissions sources could contribute to this increase. Cumulative issues related to toxic air emissions are discussed in Section 5.4, *Air Quality*.

Emergency Response. The City of Long Beach has a Hazardous Materials Management Program that prevents employee, public and environmental exposure to hazardous material and chemicals. The Certified Unified Program Agency (CUPA) program is a Joint Powers Agency, which combines both Fire Department and Health Department programs related to hazardous material management into one Agency function that serves Long Beach. The project and future development in

Long Beach could cumulatively increase demands for hazardous materials emergency response services. However, as stated in Section 5.8, *Public Services and Utilities*, cumulative development would not be expected to interfere with emergency response plans or emergency evacuation plans, as the City of Long Beach, LBFD and LBPD would review site specific development plans to ensure that access by fire and emergency service vehicles and equipment is provided and meets applicable standards.

Additionally, the City's Multi-Hazard Functional Plan outlines procedures that would be followed in response to anticipated emergencies in Long Beach. The City's plan describes how the City would respond in the event of, but not limited to, a state of war emergency, natural emergency situations (earthquakes, fires, floods and storms) and man-made emergency situations (pollution spills, civil disturbances, aircraft accidents industrial accidents, explosions and radiological incidents).

Transportation. Hazardous materials are transported on virtually all public roads, particularly since all motor vehicles contain hazardous materials (e.g., fuel) in addition to any hazardous cargo that may be on board. The project would contribute little to cumulative transportation hazards. The cumulative effects of transporting hazardous materials would continue to be addressed by regulatory requirements. Packaging requirements for hazardous materials and wastes established by DOT, USPS and EPA minimize the potential consequences of possible accidents during transport. Therefore, the cumulative impact of potential transportation-related accidents would be less than significant.

Hazardous Waste Disposal. As cumulative development occurs in Long Beach and at the State and regional levels, more hazardous wastes will be generated. Project-related hazardous waste generation would contribute to cumulative increases in hazardous waste generation. The incremental environmental effects of expected increases in hazardous waste generation and off-site hazardous waste recycling, treatment and disposal would also contribute to cumulative effects. Hazardous waste disposal affects the environment by releasing contaminants to land, air and/or water. Cumulative increases in waste generation could also contribute to the potential for some wastes to be mismanaged at any point in the disposal process in a manner that poses potential hazards to people, or to animal and plant populations. Since the project's contribution to this cumulative impact would be a small increment, the project's contribution would be less than cumulatively considerable and, therefore, less than significant.

Mitigation Measures: No mitigation measures are recommended.

Level of Significance After Mitigation: Not applicable.

5.6.5 SIGNIFICANT UNAVOIDABLE IMPACTS

With implementation of project-specific mitigation measures, as discussed above, impacts resulting from the proposed project would be reduced to a less than significant level. No significant unavoidable impacts would result from project implementation.

5.7 CULTURAL RESOURCES

The purpose of this section is to identify historic, archaeological and paleontological resources existing in the project area and to assess the significance of such resources. The analysis in this section has been prepared in accordance with Section 15064.5 of the *CEQA Guidelines*, which considers potential impacts on prehistoric, historic and paleontological resources. This section is based upon the Historic-Period Building Survey conducted by CRM Tech (June 2006) and included in Appendix 15.6, *Historical Resources Survey Report*.

5.7.1 ENVIRONMENTAL SETTING

Between August 2005 and June 2006, CRM Tech performed a historical resources survey for the proposed Shoreline Gateway Project. The boundaries of the project encompass portions of two fully urbanized city blocks located on the north side of Ocean Boulevard between Atlantic Avenue and Alamitos Avenue, on the eastern edge of the city's downtown area. In consideration of the project's potential for visual, atmospheric, and other indirect effects, the study area for the survey also includes properties of potential historic significance that are located adjacent to the project boundaries. In all, the entire study area extends from the west side of Atlantic Avenue to the east side of Alamitos Avenue, straddling both sides of Ocean Boulevard. It lies across the boundary between the Rancho Los Cerritos and Rancho Los Alamitos land grants, in what would be Section 6 of T5S R13W, San Bernardino Base Meridian.

As a technical component of the EIR, the study is required in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.) and the City's Cultural Heritage Commission Ordinance (LBMC §2.63.010, et seq.). The purpose of the study is to provide the City of Long Beach with the necessary information and analysis to determine whether any building, structure, object, site, or other feature within the study area constitutes a "historical resource," as defined by CEQA, and thus requires proper protection during the proposed redevelopment project.

In order to facilitate the proper identification and evaluation of potential "historical resources" within the study area, CRM Tech reviewed existing cultural resources records, pursued historical background research, consulted with groups and individuals active in local historic preservation, and conducted a systematic field survey.

RECORDS SEARCH

At the commencement of the study, CRM TECH initiated a historical/archaeological records search at the South Central Coastal Information Center (SCCIC), California State University, Fullerton, which is the official cultural resource records repository for the Counties of Los Angeles, Orange, and Ventura. During the records search, SCCIC Staff Researcher Thomas D. Shackford checked the information center's maps and files for previously identified historical/archaeological resources in or near the study area, and existing cultural resources reports pertaining to the vicinity. Previously identified historical/archaeological resources include properties

designated as California Points of Historical Interest and California Historical Landmarks, as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

To supplement the materials provided by the SCCIC, cultural resources files maintained by the City of Long Beach Office of Neighborhood and Historic Preservation were reviewed. Among these are official records on designated Long Beach historic landmarks, documentation generated from City-sponsored studies, and miscellaneous files on various properties within the study area.

FIELD SURVEY

On August 3, 2005, an initial field inspection of all buildings located within the project boundaries was conducted. On June 7, 2006, the study area was further evaluated in order to complete the survey of all building and other built-environment features in the balance of the study area (i.e., those outside but adjacent to the project boundaries). Since the study area is fully developed with buildings, public roadways, paved parking lots, and landscaping features, with no undeveloped ground surface visible, a field survey by an archaeologist was determined not to be necessary.

In accordance with guidelines adopted for such surveys by the California State Office of Historic Preservation, the field procedures were focused primarily on buildings and other built-environment features that appeared to be more than 45 years old or to demonstrate the potential for exceptional historical or architectural merits. For these properties, CRM Tech made detailed notations and preliminary photo-recordation of their structural/architectural characteristics and current conditions. The field observations and photographic records formed the basis of the building descriptions and the historic integrity assessment and in site record forms. Buildings and other features that date to the post-1962 period and clearly show no potential for exceptional merits were noted but excluded from further study.

HISTORICAL RESEARCH

During the study, CRM Tech pursued historical research in order to establish the historic context for the evaluation of properties recorded during the field survey as well as each property's construction history, roles and uses over the years, and possible associations with important historic figures and/or events. Sources consulted during the research included the following:

- Published literature and online reference sources in local, regional, and architectural history;
- Archival records of the City of Long Beach and the County of Los Angeles, particular the City's building safety records and the County's real property assessment records;
- Historic maps of the study area, including U.S. General Land Office's (GLO) land survey plat maps dated 1868-1890, the U.S. Geological Survey's

(USGS) topographic maps dated 1896-1941, and the Sanborn Map Company's insurance maps dated 1898-1969; and

- Local directories from the historic period and other materials on file at the local history collections of the Los Angeles and Long Beach Public Libraries.

CONSULTATION WITH LOCAL HISTORICAL GROUPS

In conjunction with other research procedures, CRM Tech contacted several groups and individuals active in the Long Beach preservation community for additional information on buildings and other features recorded within the study area and to seek their input regarding the potential historical significance of these properties to the local community. The groups and individuals contacted included the Historical Society of Long Beach, Long Beach Heritage, and former Long Beach Historic Preservation Officer Ruthann Lehrer. Comments and information from these sources are incorporated into the analysis.

INPUT FROM LOCAL HISTORICAL GROUPS

In September 2005, Julie Bartolotto, Executive Director of the Historical Society of Long Beach, and Dave Waller, Vice President of Public Awareness for Long Beach Heritage, were contacted regarding this project. In an effort to determine whether or not any of the buildings within the project boundaries or persons associated with them was of significance in local history, the organizations were provided with photographs of the buildings in the project area and a list of individuals associated with them. After initial contact with Ms. Bartolotto, on September 27, 2005, the Historical Society shared their extensive photo collection with CRM Tech researchers. Archive Manager Amy Luke facilitated the research with a survey of available databases and retrieval of several indexes, historical volumes, ephemera, and photographs.

In the meantime, Mr. Waller relayed the information to various members of Long Beach Heritage for their input. These individuals included Professor Louise Ivers of California State University, Dominguez Hills; Maureen Neeley of HousStories; and Karen Clements. Ms. Neeley also referred the information to her contacts and Ms. Clements offered access to various research sources. Ms. Clements noted that independent insurance salesman Clare Hamman, prominent local architect Kenneth S. Wing, Sr., and later Wing's son Kenneth S. Wing, Jr. had occupied one of the buildings in the project area, located at 40 Atlantic Avenue. She further stated that oral history interviews with Hamman and Wing, Sr., could be found at the library of California State University, Long Beach. Ms. Bartolotto also commented on the elder Wing's association with the building.

Due to time constraints, no formal consultation was conducted with the Historical Society of Long Beach and Long Beach Heritage regarding properties within the study area but outside the project boundaries. However, research resources maintained by these organizations were consulted during subsequent research efforts.

HISTORICAL OVERVIEW

The City of Long Beach received the earliest European visitors in the late 18th century with the arrival of Spanish explorers and missionaries. Mission San Gabriel, originally founded in what is now Montebello, was awarded jurisdiction over most of this region after its establishment in 1771. Ten years later, the Pobladores, a group of 12 families, constituting about 40 people, founded a community in what is now the downtown area of the City of Los Angeles. The settlers, who were reportedly recruited to establish a farming community to relieve Alta California's dependence on shipped importations of grain, named the area el Pueblo de Nuestra Señora la Reina de Los Angeles de Porciuncula (the Pueblo of Our Lady the Queen of the Angels of Porciuncula).

Between 1781 and 1848, during the Spanish and Mexican reign in Alta California, the southern portion of present-day Los Angeles County was held in a variety of land grants. In 1784, Manuel Nieto, a Spanish soldier, was awarded approximately 300,000 acres (later reduced to 167,000 acres). After his death in 1804, the land was divided among his heirs into six separate ranchos, including Ranchos Los Alamitos and Los Cerritos. These two ranchos encompassed the bulk of what is now the City of Long Beach, and the boundary line between the Rancho Los Alamitos and the Rancho Los Cerritos cuts diagonally (SW to NE) through the survey area.

Between 1800 and 1834, the Nieto family built a home on a hilltop in Rancho Los Alamitos near today's Anaheim Road. In 1842, Abel Stearns purchased the land and improved the old adobe for use as his summer house. With the discovery of gold and resultant influx of people to the area between 1849 and 1855, Stearns and other cattle ranchers experienced a brief period of prosperity. However, the 1860s saw a decline and around 1878, John Bixby began leasing Rancho Los Alamitos. Three years later, J. Bixby and Company along with Isaias W. Hellman, a banker and local investor, purchased Rancho Los Alamitos. Between 1878 and 1887, John Bixby made many improvements to the rancho and brought in pure-bred sheep, horses, and registered Holstein dairy cattle, but in 1891, the rancho was divided. The southern 6,800 acres (now Los Alamitos and Leisure World) went to the Hellman family, the middle acreage remained with John Bixby's family, and the northern acreage went to the J. Bixby and Company partners. The Bixby family also owned Rancho Los Cerritos and had a major influence on the development of Long Beach.

Shortly before the American annexation of Alta California in 1848, Massachusetts-born Johnathan Temple bought the 27,000-acre Rancho Los Cerritos where he constructed a two-story adobe house in the Monterey Colonial style in 1844. In 1866, Flint, Bixby, and Company bought the rancho from Temple and from 1866 to 1881, John Bixby's cousin Jotham Bixby and his family lived in the adobe house. In the 1880s, Jotham Bixby began selling land to developers in areas that would later become the Cities of Long Beach, Lakewood, Bellflower, and Paramount, among others. Long Beach was originally founded in 1881-1883 as William Willmore's American Colony project.

William Erwin Willmore first visited the area in 1870, and later emigrated from London. He obtained a job promoting southern California real estate with Jotham Bixby and served as the southern manager for the California Immigrant Union, which

encouraged settlement and facilitated large real estate deals. In 1881, Willmore bought 4,000 acres of Rancho Los Cerritos from Bixby, right up to the roughly southeastern boundary line that runs through the survey area, and announced plans for the American Colony, also known as Willmore City. The colony encompassed the entire project area and was bounded by present-day Magnolia Avenue on the west, Alamitos Avenue on the east, 10th Street on the north, and the Pacific Ocean on the south. Ocean Park Avenue (now Ocean Boulevard) and American Avenue (now Long Beach Boulevard) were planned to be the main thoroughfares. At the time, the only building in the proposed colony was an old sheephearder's shack used by the Bixby ranch personnel, and located near the present-day intersection of 1st Street and Pine Avenue. The colony was marketed as a new seaside resort in newspapers throughout the country, including the Los Angeles Times, in 1883. Despite the extensive marketing, very few lots were sold, and Bixby regained ownership by default in 1884. Under new ownership of the Long Beach Land and Water Company, the colony was renamed Long Beach. Shortly thereafter, with the phenomenal increase in the number of settlers arriving in southern California in the late 1880s, the future of the colony turned. In 1888, the City of Long Beach incorporated with 59 buildings and a new school.

Between roughly 1891 and 1910, seaside facilities were the focal point of development in the little town. These facilities attracted tourists from nearby communities, which in turn created a demand for more and better transportation. Trains had been serving the area since as early as 1869, when Phineas Banning constructed a 22-mile railway from Los Angeles to San Pedro, but it was 1891 before the Long Beach City Council allowed the Los Angeles Terminal Railroad Company to install a rail line along Ocean Avenue to connect Long Beach with Los Angeles. By 1902, the Pacific Electric line also provided service into and around the city. In the following years the shipping industry began to develop at the port, led by John F. Craig who relocated the Craig Shipbuilding Company from Ohio to Long Beach in 1907. The Long Beach Harbor opened in 1911, following a period of explosive growth that resulted in a population jump from 2,252 in 1900 to 17,809 in 1910.

Perhaps as a result of this aggressive growth, in the 1910s and 1920s efforts were made to impose a "City Beautiful" plan on Long Beach. In general, this reform-minded movement sought to remedy social problems and increase civic loyalty through beautification of the city. The movement favored the Beaux-Arts and classical styles because of their dignified beauty, and supported the establishment of a monumental core or civic center, wide, tree-lined boulevards, and comprehensive city planning. As early as 1909, the movement as a whole came under fire for being expensive, impractical, and elitist. Although conflict between beautification and commerce was evident in Long Beach as well, the city was clearly proud of its architecture and the role it played in attracting and keeping residents and businesses. The importance of this was discussed in news articles from 1917 and 1922, which proudly noted that Long Beach was a leader in a variety of architectural styles, such as Swiss Chalet, Bungalow, and "Aeroplane." In fact, many well-known architects and designers of the time, such as Greene and Greene, Irving J. Gill, Coxhead and Coxhead, and the Olmstead Brothers, constructed noteworthy projects in the city and others became distinguished as their designs began to adorn the streetscape.

In 1921, the discovery of oil in Signal Hill was the catalyst for a "million-dollar-per-month" building boom in the downtown area. Despite, or perhaps because of the conflict between beautification and commerce, in the 1920s an organization of architects known as the Long Beach Architectural Club implemented comprehensive decisions regarding local architecture. Even in modest neighborhoods from that period an overall approach to design is evident. In 1928, the Pacific Southwest Exposition was held in Long Beach, featuring a conglomeration of faux Moorish buildings designed by local architect Hugh R. Davies. The exposition likely influenced the incorporation of "exotic" styles into the architectural fabric of the city and helped keep Long Beach on the cutting edge of architectural design.

Though many communities felt effects of the Depression soon after the stock market crashed in 1929, it was not really until 1932 that the Depression descended on Long Beach, and the tourist industry, a Long Beach staple, evaporated. In 1933, a magnitude 6.3 earthquake destroyed or damaged many of the masonry buildings and public schools in the Long Beach area. As a result of this disaster, the city received federal aid and this, coupled with the rebuilding process, jump-started the local economy. Although Long Beach had long had tougher-than-average building codes, local Assemblyman Harry B. Riley successfully campaigned for even stricter building and engineering codes to ensure that schools, in particular, would be safer. Many of the buildings that were repaired or rebuilt during this period incorporated the Art Deco Moderne or Streamline Moderne styles. In 1935, thanks to the Federal Works Progress Administration (later Works Projects Administration) funding, many parks and transportation facilities in the city were improved. In addition, the Federal Art Project subsidized art, literature, music, and drama and engaged artists for public projects, at a time when the artist's enclave in the East Village was growing, producing a lasting legacy of public art in Long Beach.

In 1937, the Navy opened its first permanent base in Long Beach, Reeves Field, on Terminal Island. Three years later, Douglas Aircraft built a new facility adjacent to the Long Beach Airport that eventually created more than 41,000 jobs. In 1941, the Roosevelt Naval Base, shipyard, and hospital were constructed and in the same year, an 8.9-mile breakwater was constructed by the Federal government, creating 30 square-miles of protected anchorage and effectively eliminating the surf and sand in Long Beach.

The national and local wartime boom that carried the country out of the Depression also propelled most communities into an unprecedented period of post-war growth, but, while outlying areas grew in the postwar climate, many downtown areas suffered, including Long Beach. By the late 1950s and early 1960s military downsizing and the addition of major tourist attractions such as Disneyland and Knott's Berry Farm in neighboring communities took a toll on the city's economy. Although the city had gained some renewed interest as a destination spot after bringing the Queen Mary to Long Beach Harbor in the late 1960s, redevelopment efforts and the construction of freeways failed to obtain the desired results. Long Beach was a city in transition with many of its grand buildings falling into neglect, while others were destroyed by urban renewal projects.

By 1972, with the downtown area blighted, the citizens finally took action, stopping the completion of the Garden Grove Freeway (SR 22), which would have wiped out

residences and businesses along 7th Street, just north of the project area. Despite the public's increasing interest in preservation, redevelopment efforts continued to cause the loss of important historic buildings such as the Art Deco-style city offices and the historic Carnegie Public Library. In the 1980s, the pattern of redevelopment continued with buildings on six blocks in downtown being removed, including noteworthy examples of the PWA Moderne style such as the 1930-1932 Long Beach Municipal Auditorium, the 1933-1934 City Hall, and the 1936-1937 Veterans Memorial Building.

In reaction to the public outcry over the loss of these buildings, in 1978 the City established the Cultural Heritage Committee and authorized it to identify and protect historic resources by granting them historic district status. A decade later, the Cultural Heritage Committee became a City commission. In the early 1990s, the city began to thrive as major projects occurred in the downtown area. Around 1995, the construction of the Aquarium of the Pacific and the renovation of the Long Beach waterfront area began. Since then, redevelopment and preservation efforts together have achieved a reinvigorated downtown with many noteworthy buildings representing a wide variety of architectural styles and the work of several renowned architects including Julia Morgan, Edward Killingsworth, Greene and Greene, and Raphael Soriano. Today, Long Beach is once again a destination spot and a diverse and thriving community, with a population of approximately 440,000, an area of around 50 square-miles, and a thriving arts culture centered in the East Village.

PREVIOUS CULTURAL RESOURCES STUDIES IN THE VICINITY

According to records of the SCCIC, the southernmost portion of the study area, to the south of Ocean Boulevard and the west of Shoreline Drive, was addressed in a previous cultural resources study completed in 1994. The remainder of the study area had apparently not been surveyed systematically prior to this study. However, SCCIC and City records suggest that several reconnaissance-level surveys may have included the study area in their scopes, such as a 1988 survey of some 350 buildings in the downtown area.

Records further indicate that four of the buildings in the study area were previously noted and evaluated as potential historical resources. Two of these, the Villa Riviera at 800 E. Ocean Boulevard and the Artaban Apartments at 10 Atlantic Avenue, have been formally recorded into the California Historic Resources Inventory and designated by the City of Long Beach as local historical landmarks. In addition, the Villa Riviera has also been placed in the National Register of Historic Places and the California Register of Historical Resources. The other two buildings, located at 777 E. Ocean Boulevard and 40 Atlantic Avenue, were the subjects of preliminary historical assessment completed in August 2005. Information from existing records on these four buildings is discussed in the section below as appropriate.

Outside the project boundaries but within a half-mile radius, at least three other area-specific cultural resources studies have been reported to the SCCIC, all of which are on relatively small tracts of land. A large number of historical/archaeological sites were previously recorded within the scope of the records search, all dating to the historic period. The vast majority of these sites consisted of buildings and/or other built environment features, and only one was an archaeological site, representing a

trash scatter. Other than the Villa Riviera and the Artaban Apartments, the nearest of these sites to the study area is the 1910-vintage Greenleaf Hotel at 63 Lime Avenue, just outside the study area boundaries. According to SCCIC records, this building has not been evaluated for eligibility in the National Register or the California Register. No prehistoric (i.e., Native American) archaeological resources have been recorded within the scope of the records search.

SCCIC records indicate that many buildings in downtown are now listed in the National Register and/or the California Register, or have been determined eligible for listing in one or both of these registers. In addition to those listed in the National Register and the California Register, nearly 200 buildings within the Long Beach city limits have been either locally designated or determined eligible for local designation, including more than 100 that have been designated officially as city landmarks.

The number of previously identified historical resources in the project vicinity, including many of recognized historic significance, attests to the high sensitivity of Long Beach's downtown area for potentially significant buildings and other built-environment features. Other than the Villa Riviera and the Artaban Apartments, however, none of these previously recorded historical/archaeological sites was located in the area that may be affected by the proposed project. Therefore, they do not require further consideration during this study.

POTENTIAL HISTORICAL RESOURCES WITHIN THE STUDY AREA

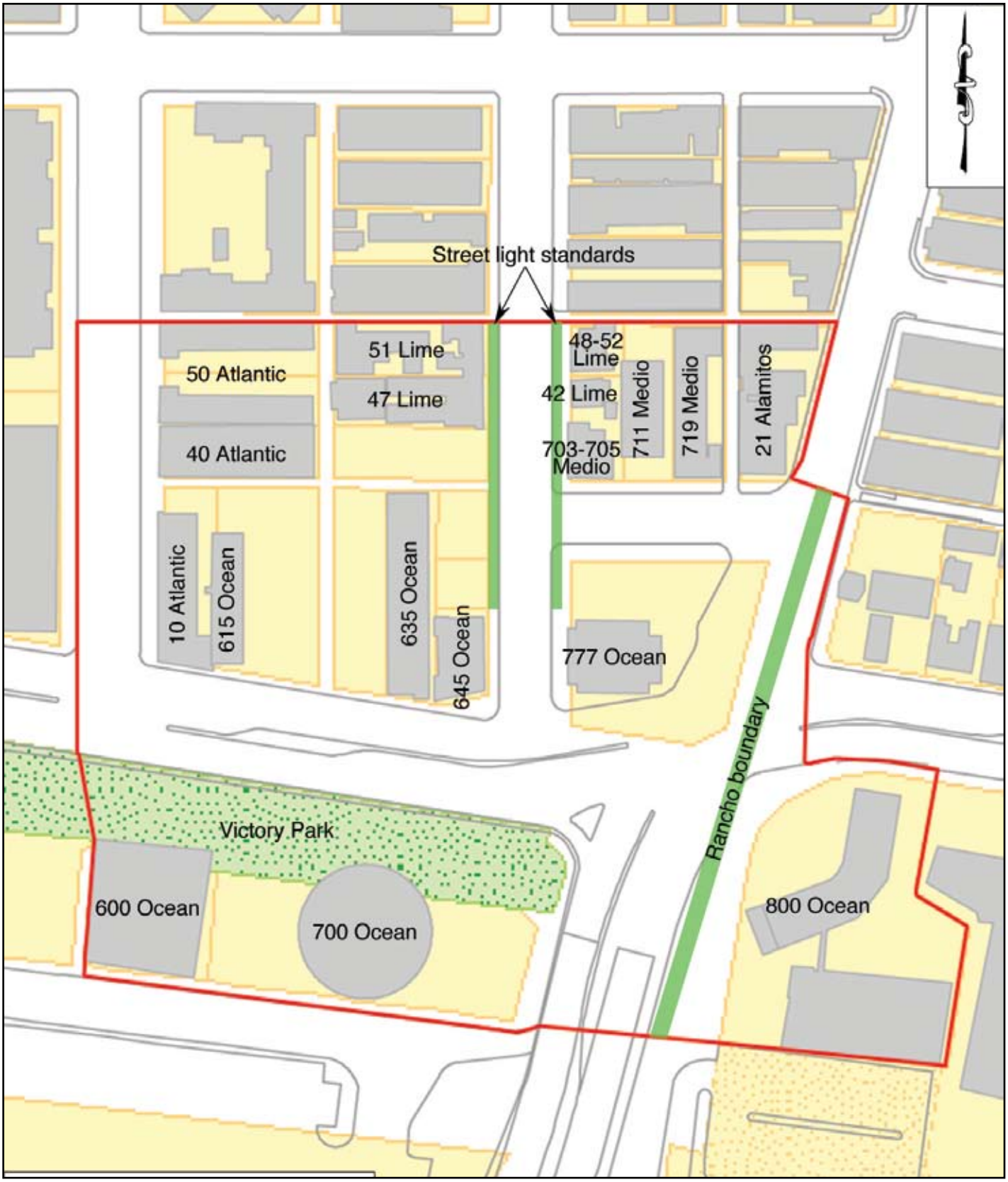
Situated on a major thoroughfare across downtown Long Beach and approximately one block from the shoreline, the study area is surrounded by a mix of historic and modern office, commercial, and multi-unit residential buildings. The study area itself hosts a total of 18 buildings or groups of buildings of similar nature. Fourteen of these date to the historic period (i.e., pre-1962), and thus meet the age threshold for recordation and evaluation as set forth by the California State Office of Historic Preservation. Of the four buildings constructed after 1962, two were included in this study due to their apparent potential for special merit in local architectural history. The other two, an apartment building at 600 E. Ocean Boulevard (Long Beach Towers, constructed in 1963-1964) and a restaurant at 615 E. Ocean Boulevard (Long Beach Café, constructed in 1969-1970), were noted but excluded from further study. The location of each of the following sites is depicted on Exhibit 5.7-1, *Location of Buildings in Study Area*.

Besides the buildings, a site of local historic interest, a group of streetscape features, and the remains of a municipal park were also encountered within the study area during this study. These features are described and discussed in further detail below, along with the 16 buildings or groups of buildings that were surveyed and evaluated as part of the study.

21 Alamitos Avenue

DESCRIPTION

This wood-framed, stucco-clad apartment building is built on an irregular plan and surmounted by a flat roof. It stands three stories tall in the front portion and two



Not to Scale

SHORELINE GATEWAY PROJECT
ENVIRONMENTAL IMPACT REPORT

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Location of Buildings in Study Area

Exhibit 5.7-1

stories tall in the rear portion. The south-facing primary façade is dominated by four large balconies on the upper levels, each of them with a simple, slender metal railing between low stucco walls. Similar balconies also adorn the upper portions of the south-facing walls of the rear portion.

All of the balconies are framed by wide, projecting copings and fins, creating a strong emphasis on a Modernist design theme. The theme is echoed in the rectangular open canopies over the top balconies and the rectangular copings around the windows facing the east. The lower level of the primary façade is decorated with an uncut stone veneer. Main access to the apartments is through a centered door that leads to a staircase, visible through openings in the middle portion of the façade. aluminum-framed sliding and double-hang windows provide fenestration to the building.

CONSTRUCTION HISTORY

Originally known as the Joyce Manor Apartments, this building was built in 1956 as a 16-unit apartment complex with an attached garage. It was built on the former site of the Artaban Garage, a 150x60-foot commercial garage built in 1928 by then-property owner C. D. Cody, which stood until around 1954. The building has apparently remained largely intact with few permits for alterations issued over the years. Those on file in city building records were secured by tenants for interior remodeling. For example, in 1965 Marge Leferovich of Apartment 16 relocated a wall heater, and the following year Marie Wells of Apartment 10 added a forced-air unit.

SIGNIFICANCE EVALUATION

Archival records indicate that Harris Rogers, a Long Beach building contractor, acquired this property from Earl F. Cody in 1956, shortly before the construction of the Joyce Manor Apartments. About that time, Mr. Rogers had a business office on Pacific Avenue and resided with his wife Nadyne on Maine Street. The name of C. D. Cody, the previous property owner, did not appear in a survey of 1950s local directories.

Dating to the late historic period, this apartment building is not known to be closely associated with any persons or events of recognized significance in national, state, or local history, or to represent the work of noted architect, designer, or builder. In terms of architectural, aesthetic, or artistic merits, the building does not qualify as an important example of its style, type, period, region, or method of construction. Therefore, it does not appear eligible for listing in the California Register of Historical Resources or for designation by the City of Long Beach as a landmark, and does not meet CEQA's definition of a "historical resource."

10 Atlantic Avenue (Artaban Apartments)

DESCRIPTION

A well-known local landmark at a highly visible location, this L-shaped, eight-story apartment building was first recorded into the California Historic Resources Inventory in 1984. The site record form prepared at that time offers the following description of the Artaban:

> *Located at 10 Atlantic Avenue and constructed in 1922, this building is a very good example of a large-scale apartment building from the 1920/1930 era. As was common at this time in Long Beach, this building was built as cooperative apartments and included such amenities as a built-in refrigeration plant, laundry room, meeting and game rooms. The exterior of the building is concrete with many decorative touches added. There is a decorated band between the second and third floors and plain bands between each of the remaining floors. These bands are on the south and west sides of the building. The south side of the building features balconies under the center windows on the second through eighth floors and two side balconies on the seventh floor, all these balconies face the ocean. On the west side are two individual balconies on the fifth and seventh floors. Although the roof is flat, a decorative band running atop the south and west sides of the building simulates an overhanging roof. The entrance to this building is on the west side and is surrounded by a decorative arch and the recessed doorway is surrounded by a very decorated entrance. The lobby of the building is very beautiful and well maintained, the ceiling is a very colorful fresco with many details. The mantle around the fireplace shows scenes of Artaban travelers looking for Jesus. (View 1984:1)*

During the field survey, it was noted that this building remains largely intact as described above. However, as can be expected in a building of this vintage, many of the windows were replaced at an unknown time. Evidently, the apartments were originally fenestrated with wood-framed, two-pane picture windows flanked by narrow, wood-framed casements, some of which are still extant. A large number of these have been replaced with aluminum-framed, one-pane picture windows and aluminum-framed double-hungs.

CONSTRUCTION HISTORY

As a designated City landmark, the construction history of the Artaban is well documented in City records. Built in 1922, it was among the city's first multi-storied residential building. It was designed by architect Charles McKenzie and constructed by contractors Wallace and Bush. City permit records since 1988 indicate a number of repairs to deteriorating features such as plumbing, electrical wiring, and planters, as well as minor interior alterations. Although replacement windows abound in the building today, no major alterations to the building are evident in archival records.

SIGNIFICANCE EVALUATION

While nominating the Artaban Apartments for City landmark status in 1985, the City of Long Beach Cultural Heritage Committee determined that the building met Criteria C and I, as outlined in Long Beach Municipal Code §2.63.050.

> *These particular criteria are applicable because this structure exemplifies an era of the construction of cooperative apartments and is a familiar visual feature in the downtown area. Its architectural significance stems mainly from the recessed doorway and the decorative lobby. (City of Long Beach 1985:1)*

Despite the minor alterations to its exterior features, the building continues to retain the qualities that rendered it a City landmark in 1985 and sufficient historic integrity to relate to its period of significance. Furthermore, since the development of cooperative apartments represented a pattern of events that contributed significantly to the development of Long Beach in the 1920s-1930s and helped bring about the current skyline of the downtown area, the Artaban, one of the first high-rise apartment buildings in the city, also appears eligible for listing in the California Register under Criterion 1, with a local level of significance. Therefore, it clearly meets CEQA's definition of a "historical resource."

40 Atlantic Avenue

DESCRIPTION

This rectangular, one-story office building, currently occupied by E & T Constructers, is an older poured concrete "box" with a much newer façade on the street-facing west side. This Modern-style façade features a centered, recessed entrance with aluminum-framed, tinted glass doors and windows. The north and south portions of the façade are covered with blue tiles, and the middle portion above the entrance has a smooth, white surface. The south elevation, adjacent to an alley and parking area, has painted concrete walls and recessed, steel-framed awning windows. The rear elevation has a large, vehicle-sized opening that has been partially filled with bricks and converted into two doors, flanked by a pair of windows.

CONSTRUCTION HISTORY

Historical sources indicate that this building was originally constructed in 1922 as an automobile garage for the Artaban Apartments, and was called the Artaban Garage. It served in that capacity to at least 1942, although the name by that time had become K. W. Wade Garage. After the garage was relocated to the northwestern corner of Alamitos Avenue and Medio Street, the building was converted into commercial/office use after extensive interior and exterior remodeling in 1952. Further remodeling took place in 1967, around the time when prominent local architect Kenneth S. Wing, Sr., and his firm, Wing and Associates, moved into the building. The present façade, typical of Wing's architectural designs from that period, is probably the result of the 1967 remodeling.

SIGNIFICANCE EVALUATION

Archival records indicate that the Artaban Garage was originally owned by Jesse G. Van Possum and George Sckenurr, neither of whom appears in local directories of the period. Later owners of the property included H. D. Henderson and William Duckworth, First Securities Company, and Assets Corporation before Kenneth S. Wing, Sr., and Clare Hamman, an independent insurance saleswoman, acquired the property around 1940. Wing, however, did not occupy the building during the 1940s-1950s, but had his architectural practice elsewhere in the City.

After it was converted into commercial/office use in 1952, the first tenants in the building included the Charm Unlimited School and the Otis Ted Majorette Studio. By

the early 1960s, the building was used as a dental office. According to research previously conducted:

> *It was in the late 1960s that the Wings [Kenneth S. Wing, Sr., and his son Kenneth S. Wing, Jr., also an architect] decided to relocate their architectural firm (for a third and last time) to the building located at 40 Atlantic Avenue. From the early 1970s onward the building housed not only Wing's architectural practice, but was also shared by an insurance company and nursing registry. … By the early 1980s, the subject property was being used as the headquarters of a chemical waste company. In the years to follow, the building also housed an employment placement company called PIP Personnel Services.*

In the meantime, after the death of Kenneth S. Wing, Sr., in 1986, Kenneth Wing, Jr., continued to work in the building until his own death in 1995.

Today, this building is in good condition and the attractive Modern-style façade is closely identified with the most notable period in its history, when it served as the office of Kenneth S. Wing, Sr., one of the most influential Long Beach architects, during the late 1960s and the 1970s. The design of the façade clearly reflected Wing's architectural philosophy. Consultation with local historic preservation groups demonstrates that there is a strong awareness of the building's association with Wing and his son, Kenneth S. Wing, Jr., among members of the preservation community.

Because of the relatively short period of occupancy by the Wings and the fact that it dates only to the 1960s-1970s, this building does not appear to meet the criteria for listing in the California Register of Historical Resources. However, as the last location of the architectural practice of Kenneth S. Wing, Sr., it demonstrates sufficient local historic interest to appear eligible for designation by the City of Long Beach as a landmark and, through the well-preserved main façade, retains a high level of historic integrity to relate to the period of significance.

50 Atlantic Avenue

DESCRIPTION

Located at this address is a motel complex currently operated as a Rodeway Inn. The complex consists of two flat-roofed, two-story buildings, each built on an elongated L-shape plan, connected at the western end by a canopy over the driveway. Both buildings feature aluminum-framed windows of recent origin and wrought-iron railings along the exterior corridors and stairways. The west-facing primary façade, which sports several evenly spaced bays with arched tops on the upper level and faux-marble engaged columns on the lower level, is clearly a modern construction.

CONSTRUCTION HISTORY

Built in 1952 and called the At-Ocean Motel in 1955, this motel originally had a total of 18 units. The twin buildings were designed by architect Vern Hedden of Hedden

and Shelley, and executed by A. H. Ormsby of the Atlantic Building Company. A. H. Ormsby's office in 1951 was located at 709 ½ E. First Street in Long Beach. Subsequent names of the motel, if any, did not appear in local directories.

A small portion of the building was repaired after a 1963 auto collision. Later alterations include the 1985 addition of a manager's office and bedroom, which was designed by Kenneth S. Wing, Jr., and the addition of a canopy over the driveway. In 1999, 32 windows were replaced, and in 2002, Unit No. 122 was modified for disabled access.

SIGNIFICANCE EVALUATION

Historical sources indicate that Ruth Foley was the property owner at the time of construction and a resident of building. She became co-owner with Leslie C. Foley around 1959, and in 1960 the property was deeded to Robert M. Hendon and M. Marge La Branch.

None of the property owners identified above is known to have attained recognized significance in history, nor have any important historic event, either a specific event or a pattern of events, been documented in association with the property. The motel itself demonstrates no particular architectural, aesthetic, or artistic merits, and indeed resembles a modern construction after the 1985 remodeling. The 1985 addition to the front, designed by Kenneth S. Wing, Jr., is essentially utilitarian in nature and does not appear to express any particular designed philosophy or ideals. Therefore, this property does not appear eligible for listing in the California Register of Historical Resources or for designation by the City of Long Beach as a landmark, and does not meet CEQA's definition of a "historical resource."

42 Lime Avenue

DESCRIPTION

This modest vernacular residence, located on the rear portion of the parcel that also hosts the apartment building at 703-705 Medio Street, is a wood-framed structure with a roughly rectangular footprint. The low-pitched cross-gable roof is sheathed with composition shingles and has very narrow eaves. The exterior walls are clad with narrow clapboard in the main façade and with vertically grooved wood panels on the sides. The west-facing main façade features a small entry porch with wood picket railings and a bay window with a large, aluminum-framed fixed window flanked by two aluminum-framed double-hungs. Although the windows are evidently of modern origin, the original broad, flat window trim remains in place.

CONSTRUCTION HISTORY

Historic maps indicate that this 710-square-foot residence was constructed sometime between 1908 and 1914. Since 1923, it has shared the lot with an apartment building at 703-705 Medio Street. This residence has apparently remained largely intact with few recorded changes or alterations over the years. One permit for this address was issued in 1982 to Arnold Gladden to re-partition interior walls in order to create storage space.

SIGNIFICANCE EVALUATION

Philander Hatch, who was president of the National Bank of Long Beach and vice president of the Long Beach Savings and Trust Co., was the owner of the property in 1917. John C. Farnham became owner around 1920. At that time he was the manager of Silverwood's, a men's clothing store that he later became proprietor of, changing the name to Farnham's. Located at 124 Pine Avenue, Farnham's was one of several similar stores, including Buffum's, clustered near the intersection of Pine and Broadway in the late 1920s.

Farnham and his family remained owners of the property until the 1950s, and lived for a time in the adjacent apartment building. After his death, Marvin A. and Pauline T. Shartzer acquired the property around 1958. Residents of this single-family dwelling included H. G. Quayle in 1939-1940. His occupation was not noted.

None of the persons identified in association with this residence is known to have attained recognized historic significance, nor have any important historic events been documented in association with this residence. In terms of architectural, aesthetic, or artistic merits, the building does not qualify as an important example of its type, period, region, or method of construction, or represent the work of prominent architect, designer, or builder. Therefore, this building does not appear eligible for listing in the California Register of Historical Resources or for designation by the City of Long Beach as a landmark, and does not meet CEQA's definition of a "historical resource."

47 Lime Avenue

DESCRIPTION

The apartment complex located at this address consists of two separate buildings. The front building is a U-shaped one- and two-story structure that wraps around a narrow, tile-paved center court. The front portion of this wood-frame, stucco-clad building, facing east and standing two stories tall, encompasses almost all of the stylish and decorative elements in the building's design, and the rear, one-story portion of the building is largely utilitarian in appearance.

The symmetrical principal façade is focused on a centered main entrance, which opens to a breezeway and leads to the court. It is sheltered by a ceramic tile-covered pent roof resting on shaped rafters and braces, as are the three windows on the upper level. The two lower-level windows on either side of the entrance sport cloth awnings instead. Each of the tripartite windows in the façade comprises a wood-framed picture window flanked by two aluminum-framed double-hangs. Other windows in the structures include both wood-framed and aluminum-framed double-hungs. The front and rear ends of the flat roof over the two-story portion of the building feature projecting cornices, slightly more ornamental in the front.

The rear building in the complex is a one-and-a-half-story Neoclassical cottage of wood-frame construction. Its medium-pitched front-gable roof, covered with composition shingles, ends in wide, boxed eaves. The exterior walls are clad mainly with clapboard siding, while a large, gabled dormer is clad with wood-shingles.

Except for a lean-to in the rear, the building is rectangular in shape. The front façade, almost entirely obscured by the other building in the complex, consists of a bay window and a relatively large porch supported by square wooden posts. Some wood-framed casement windows are observed in the building, but most of the windows are now aluminum-framed double-hangs and sliders.

CONSTRUCTION HISTORY

A single-family dwelling was first noted at this location between 1902 and 1905, and was eventually moved to the rear portion of the lot to make room for the construction of a nine unit, 4,593-square-foot apartment building around 1913. Called St. Ambrose Court in 1923 and through at least 1938, the apartment complex apparently has undergone no major alterations. New heating units were installed in 1955, and in 1972, a stove and refrigerator were placed in a snack room on the premises.

In 1979, a permit to repair fire damage noted there had been no "structural damage." Another fire sometime around 1985 apparently caused minor damage to Units 12, 15, and 19. In December 2001, unspecified repairs were required by the City.

SIGNIFICANCE EVALUATION

Thomas Wall acquired this property from John Baker around 1905, and in 1913 Emily Wall became owner. Directory information from 1907 lists 47 Lime Avenue as the address of Mrs. S. E. Findlay's furnished rooms, with the Walls' residing at 1105 Alamitos Avenue. Other property owners during the historic period include Oscar Block; Peter L. Christenson, a longtime owner of Christenson Auto Supply on American Boulevard (now Long Beach Boulevard); Charles D. Costas; Preston G. Baker; Louise Pelletier, who changed the name of the complex to Pelletier Court; and Bernice Becker, who retained the property at least well into the 1960s.

Becker changed the name of the property to Bomberger Apartments sometime around 1957, apparently after she married Edgar Bomberger. A survey of local directories yielded no further in formation on the Wall family, Block, Costas, or Baker.

None of the property owners identified above is known to have attained recognized significance in history, nor have any important historic events been documented in association with this property. Neither of the two buildings in the complex demonstrates any particular architectural, aesthetic, or artistic merits. Small-scale, Prairie- and Craftsman-influenced apartment buildings, characterized by symmetrical façades with centered entrances and a liberal application tripartite windows, and Neoclassical-style residences were both very common in Long Beach's downtown area during the early 20th century, and survive in large numbers today, as the records search results illustrate. The two specimens on this property do not show any special qualities beyond the ordinary. Therefore, they do not appear eligible for listing in the California Register of Historical Resources or for designation by the City of Long Beach as a landmark, either individually or collectively, and do not meet CEQA's definition of a "historical resource."

48-52 Lime Avenue

DESCRIPTION

The building at this address is a two-story, irregularly shaped triplex. The woodframe, stucco clad building is surmounted by a low-pitched hip roof, which is covered with composition shingles and has very narrow eaves. Windows in the vernacular building are predominantly wood-framed double-hungs, except for a large glass-block window over a painted stone planter. Similar stone work is also observed in the sidewalk in front of the building. An exterior stairway in the main façade, lined with wrought iron railings, leads to a small balcony, which serves as both an entry porch for the lower-level unit and the main access to the two upper-level units. A wooden balcony with a metal roof and wood railing is located on the rear (eastern side) of the building.

CONSTRUCTION HISTORY

Built in 1939, this two-story, three-unit dwelling was constructed by contactor John Dallas of Long Beach. It apparently has received little alteration, with the 1961 installation of new heaters being the only recorded work after the initial construction.

SIGNIFICANCE EVALUATION

Joseph C. Hadley was identified as the property owner in 1939, at which time he was the manager of Truck-A-Way Company. His wife Clara became the sole owner around 1942, followed by Lulu F. Corey in 1943, and Edward W. Brandhorst the following year. Irene Argeris acquired the property around 1947. From that time until at least 1961, the building evidently was occupied by members of the same family, including Gus Argeris, who in 1957 was an engineer at Ford Motor Company. Other family members who resided in the dwelling include John Argeris and Irene Argeris' husband, Trifon L. Collias, who in 1957 was a bartender at the Sea Grotto in Long Beach.

None of the owners and occupants of the building listed above has been identified as a person of recognized historic significance, nor have any important historic events been documented in association with this residence. A vernacular structure with barely a hint of influence from the once-popular Streamline Moderns and Spanish Eclectic styles in its exterior design, this triplex does not represent the work of influential architect, designer, or builder, or demonstrate any other architectural, aesthetic, or artistic merits. Therefore, it does not appear eligible for listing in the California Register of Historical Resources or for designation by the City of Long Beach as a landmark, and does not meet CEQA's definition of a "historical resource."

51 Lime Avenue

DESCRIPTION

This apartment complex consists of a U-shaped two-story building in the front and an irregularly shaped one-story building in the rear, both of wood-frame construction and with stucco cladding. The flat roof of the two-story building is accented by a

front-facing shed roof in the middle portion of the symmetrical, east-facing primary façade, which is covered with ceramic tiles and sports exposed rafters. A matching pent roof over the main entrance rests on a square wooden beam supported by two buttresses. These buttresses, along with the slightly projecting "towers" at the ends of the façade and the decorative beams protruding from the walls bear the roofline, give the building a fortress-like appearance and an exotic flair.

The main entrance has a paneled wooden door of modern origin, flanked by a pair of narrow sidelights. It is accompanied by wrought-iron railings on either side of a set of concrete steps and wrought-iron light fixtures set in the buttresses. The main façade also include four tripartite windows with aluminum-framed double-hungs on the sides. The two lower-level windows are adorned with wooden planters supported by square wooden beams protruding from the wall. Other windows in the building are predominantly wood-framed double-hungs. The rear, one-story building is utilitarian in appearance, and lacks any notable stylish elements.

CONSTRUCTION HISTORY

According to property records, a 342-square-foot structure and a seven-unit, 3,370 square foot apartment building with garages were both built on this parcel around 1922. In 1946, two of the garages were converted to a living room and bathroom, and three years later an 11x16-foot addition was built. Heaters were installed in 1957, and in 1960 another of the garages was converted to a utility room. Fire damage to the remaining garages was repaired in 1971. A bedroom and bath addition was completed on the smaller building in 1951.

SIGNIFICANCE EVALUATION

Florence N. Negley, owner of the parcel when the buildings were built, operated the property as the Negley Apartments. After Rivers and Marie Mansker acquired the property around 1938, it became the Wilson Apartments, but by 1951 was called the Mansker Apartments. In 1938, Marie Mansker was the manager and Rivers was a clerk of the neighboring St. Ambrose Apartments at 47 Lime Avenue, where they also lived until they became owners of this property. They remained owners until at least 1963.

None of the property owners identified above is known to be of recognized significance in national, state, or local history, nor have any important historic events been documented in association with this property. Neither of the two buildings in the complex demonstrates any particular architectural, aesthetic, or artistic merits. Like it next-door neighbor at 47 Lime Avenue, this small-scale apartment complex belongs to a property type that was very common during the early 20th century and is well represented among recorded historic-period building in downtown Long Beach, and this specimen does not possess any unique or special characteristics. Therefore, it does not appear eligible for listing in the California Register of Historical Resources or for designation by the City of Long Beach as a landmark, and does not meet CEQA's definition of a "historical resource."

703-705 Medio Street

DESCRIPTION

This Spanish Eclectic apartment building is a rectangular-shaped, three-story wood-frame structure with a flat roof and stucco wall cladding. Notable stylish elements in its exterior design include arched window openings on the top floor, wrought-iron balconies in the middle portion of the south-facing main façade, wrought-iron light fixtures beside the front entrance, and wrought-iron and perforated stucco balconets defined by engaged columns in the western façade, which faces Lime Avenue. An arched gate attached to the east side of the main façade further emphasizes the Spanish theme in its appearance.

The southwestern corner of the building is truncated on the two upper levels, allowing the placement of a small Mission parapet at the top, an oval opening with vertical vents, two windows, and a triangular balcony with wrought-iron railings. All of the windows are now aluminum-framed sliders and double-hungs. A striped cloth awning adorns the recessed main entrance, echoed by a similar awning over the third-floor balcony. An exterior stairway of wood construction is attached to the rear of the building.

CONSTRUCTION HISTORY

This 6,636-square-foot, six-unit apartment building was constructed in 1922 by designer and builder C.T. McGrew and Sons. Since then, the building has apparently remained virtually intact with no major alterations documented. In 1965, a storage room was added in the rear of the building, between this building and the residence at 42 Lime Avenue. In 1976 a fireplace was installed in Apartment No. 5.

SIGNIFICANCE EVALUATION

This apartment building is located on the same parcel as the single-family residence at 42 Lime Avenue. The ownership history of this building, therefore, is identical to that of its smaller companion.

Despite the minor alterations in the form of window replacement, this building, the finest example of an early 20th century mid-sized apartment development in the study area, retains excellent historic integrity in relation to its construction date and to its original design by noted local builder/designer C. T. McGrew. The truncated corner of the building and the ornamental details associated with it, in particular, is reminiscent of the Ebell Club and Theater, a well-known example of McGrew's large body of work in Long Beach. In addition, this very handsome building has long been a familiar visual feature in the neighborhood. For these reasons, the building appears eligible for designation by the City of Long Beach as a landmark under Criteria F and I, although its level of significance falls short of eligibility for the California Register of Historical Resources. Therefore, it qualifies as a "historical resource" under CEQA provisions.

711 Medio Street

DESCRIPTION

This two-story, Modern-style apartment building is constructed on a rectangular plan and is surmounted by a dual-pitched, front-facing gable-on-hip roof with exposed rafters and fascia boards under the widely overhanging eaves. The wood-frame structure is clad mostly with stucco, with vertically grooved plywood panels covering much of the south-facing primary façade. The façade features a pair of metal-framed sliding doors on the upper level, each adorned with a wooden balconet, and a wood-framed double glass door on the lower level. The gable ends are filled with louvered vents.

The west side of the building sports an exterior corridor sheltered by the wide eave, from with an exterior stairway leads to a wooden arbor and the gate in the wrought-iron fence, which is mostly concealed by a lush wall of bamboo and other vegetation. Dark-painted wooden beams in the façade echo those used in the construction of the arbor. On the east side of the building are a series of private balconies. Fenestration in the building consists mainly of aluminum-framed sliding windows. Although relatively plain and unadorned, the overall appearance of the building evokes a tropical theme with a strong Asian-Pacific emphasis.

CONSTRUCTION HISTORY

Architect and property owner Jules Brady, of noted Long Beach architectural firm Killingsworth, Brady, and Smith, secured a permit in April 1961 to demolish an existing building to make way for this 5,378-square-foot, 10-unit apartment building. He contracted David Perrin, Inc., for the construction. The building apparently has remained virtually unaltered since then. A permit to repair fire damage in Apartment G was issued in 1977, and another to repair minor damage from an electrical fire in the attic was issued in 2003.

SIGNIFICANCE EVALUATION

After Jules Brady, Bessie F. Brady became the property owner in 1963, followed by Gerald A. Evers et al. in 1964. J. Anderson was identified as the owner on the 1977 permit. The firm of Killingsworth, Brady, and Smith, as mentioned above, became one of the best-recognized architectural practices in Long Beach under the helm of Edward A. Killingsworth, and is credited with a large number of projects around the world. There is no evidence that this building, likely designed by Jules Brady, is considered an important example of the prolific firm's works, but it appears unusual, if not unique, in that body of works in its tropical/Asian-Pacific character, possibly a reflection of the firm's experience in Hawaii, South Korea, and Indonesia.

All things considered, this building does not appear eligible for listing in the California Register of Historical Resources or for designation by the City of Long Beach as a landmark, and does not meet CEQA's definition of a "historical resource." However, as a property of potential local historical interest due to its association with Jules Brady, it appears to warrant special consideration in local planning.

719 Medio Street (Douglas Apartments)

DESCRIPTION

This two-story apartment building, known as Douglas Apartments, is a wood-framed, stucco-covered structure with a flat roof and a side-facing U-shape plan. The front portion of the building is decorated with three darker horizontal bands that extend around the corners, the two lower ones containing the windows on both levels and four raised horizontal grooves each. The horizontal lines, coupled with the rounded wall corners at the front entrance, give the simple façade a touch of Streamline Moderne influence.

The main entrance, set off-centered in the south-facing, asymmetrical façade and under a metal-covered canopy, opens to a breezeway. The inside court of the building features exterior corridors and stairways with steel-pipe railings. Windows in the building are predominantly aluminum-framed sliders.

CONSTRUCTION HISTORY

Archival records indicate that this 26-unit apartment building was designed by H. Alf Anderson and constructed in 1941, originally named Dobson Apartments for owners John and Lecty Dobson. It apparently has remained large unaltered. Other than heater installations in 1953, no other building permits associated with the building were found.

SIGNIFICANCE EVALUATION

Lecty Dobson became sole owner of the property in 1953, and around 1958 it became part of the estate of John H. Dobson. In 1942, H. Alf Anderson was a local architect with an office at 30 Pine Avenue and a residence on East Sixth Street. That same year, Florence Shaver was listed as the manager of Dobson Apartments. No further information was found regarding the Dobsons.

In summary, no persons or events of recognized historic significance have been identified in association with this apartment building, nor does the building exhibit any special architectural, aesthetic, or artistic merits. H. Alf Anderson was evidently a local architect of little note, and no other individuals were identified in the design and construction of the building. Based on these considerations, the building does not appear eligible for listing in the California Register of Historical Resources or for designation by the City of Long Beach as a landmark, and does not meet CEQA's definition of a "historical resource."

635 E. Ocean Boulevard

DESCRIPTION

This two- and three-story apartment building is rectangular in shape and has a flat roof. The exterior walls of the wood-frame structure are covered with stucco on the rear portion and with wide, horizontally grooved aluminum siding on the front portion, with a narrow strip of stone veneer at the bottom of the south-facing main façade.

The asymmetrical façade features a series of projections and a total of six multi-paned ribbon windows with fixed middle sashes flanked by casements. The recessed central bay includes two balconies with rounded corners and metal railings, a fire escape, and a glazed front door, and has board-and-batten and stone accents.

The west elevation, adjacent to a large parking area, has numerous multi-paned, steel-framed casement, hopper, and fixed windows. Each of these windows has a painted semicircle above it, creating the illusion of a slightly projecting arch or awning. The rear elevation has a modest Western False Front-style parapet and includes five multi-paned casement windows with similar "arches," as well as an external, metal staircase leading to a recessed door on the second floor.

CONSTRUCTION HISTORY

This 34-unit apartment building was constructed in 1941 by Long Beach contractors Odmark and Son. It was designed by architect Victor E. Siebert. Although much of the materials used in the main façade appear to be of much later origin, no major alterations are documented in the City's building safety records. Archival records only indicate that unspecified repairs were made in 1978, apparently in response to City notification of building code violations.

SIGNIFICANCE EVALUATION

Edward A. Geissler was listed as the property owner when this building was constructed. Around 1944, Forrest and June Palmateer became the owners and remained so through at least 1963. The builder of the structure, Odmark and Son, was a firm led by E.T. and Harold T. Odmark, which had an office on Gladys Street at the time of the construction. The firm appears to be of little prominence in the architectural history of Long Beach or elsewhere. A survey of local directories yielded no further information regarding Geissler or the Palmateers.

The designer of the building, Victor E. Siebert, was apparently an architect of some renown in Walla Walla, Washington. In 1912, Siebert and his former preceptor Henry Osterman established the firm of Osterman and Siebert, and in time became known as Walla Walla's foremost architects. The firm, or the two partners individually, is credited with many notable buildings in the Walla Walla area, including at least five that are listed in the National Register of Historic Places. Outside the Walla Walla area, however, Siebert appears to be virtually unknown. In any event, there is no evidence that this building occupies a notable place in the architect's long and prolific career.

Since no persons or events of recognized importance have been identified in close association with its history, this building does not appear eligible for listing in the California Register of Historical Resources or for local designation. Therefore, it does not qualify as a "historical resource."

645 E. Ocean Boulevard

DESCRIPTION

This three-story apartment building is rectangular in shape and has a flat roof with a parapets. It is covered primarily with stucco, but has a stone veneer on the lower-level façade. The building sports groups of four narrow, low-relief bands on each level, which give it a horizontal emphasis evocative of the Streamline Moderne style. The south facing principal façade has a recessed central bay with two metal balconies that extend over the main entrance, which is surrounded by the stone veneer. Evenly spaced across the top of the façade there are three vents, each in a pattern of two square holes above and below a narrow rectangular hole.

Fenestration in the building consists of wood-framed fixed, double-hung, and casement windows, as well as aluminum-framed sliding windows. Tripartite windows are found on all three levels at either end of the principal and the eastern façades, but the ones at the southeastern corner of the building have been significantly altered.

CONSTRUCTION HISTORY

Although no permit was found for its original construction, this building was evidently constructed around 1910. By 1914, a three-story apartment building was known to be present at this location, with a single-family residence behind it. It was likely remodeled after the 1933 Long Beach earthquake, when the Art Deco and Streamline Moderne styles became popular. In 1954 and 1981, permits for 20 fire ladders and chimney vents, respectively, were issued. Unspecified repairs were made in 1978, apparently in response to City notification of building code violations.

SIGNIFICANCE EVALUATION

At the time of the building's construction, William Blackwood and William A. Preston were listed as the owners of the property. Around 1928, Una V. Mayhill became the owner, followed by Gladys Harris about ten years later. Harris remained owner until at least 1958. A survey of local directories yielded no information on Blackwood, Preston, Mayhill, or Harris.

Despite extensive research, the CRM Tech study found no evidence that the building is associated with persons or events of recognized significance in national, state, or local history. It does not qualify as an important example of its type, period, region, or method of construction, nor does it express any ideals or design concepts more fully than the numerous other similar structures in the City of Long Beach. In addition, the building is not known to represent the work of a prominent architect, designer, or builder. Therefore, it does not appear eligible for listing in the California Register of Historical Resources or for designation by the City of Long Beach as a landmark, and does not meet CEQA's definition of a "historical resource."

700 E. Ocean Boulevard (International Tower)

DESCRIPTION

Located at this address, formerly 660 E. Ocean Boulevard, is one of the best recognized icons of modern architecture in Long Beach, the circular-shaped, high-rise International Tower. This unique building is described by Cara Mullio and Jennifer Volland in their popular 2004 survey of famous buildings in the city, *Long Beach Architecture: the Unexpected Metropolis*, as follows:

> *Situated across the street from the Villa Riviera, the International Tower provides a striking contrast to the city's more traditional architecture. In fact, another old vestige of the beachfront, the El Mirador Hotel, was cleared to make way for its erection. The shape of the 32-story circular structure drew a great deal of attention while under construction. A July 1964 article in the Press-Telegram predicted it would be "one of the most unusual structures ever erected here." More recently, it has been referred to by locals as the "beer can."*
>
> *The International Tower claimed to be the tallest prestressed-concrete structure in the world. An intricate web of steel formed the 130-foot diameter foundation and, in total, more than 1,000 tons of reinforcing bars were used to strengthen the foundation mat, floor slabs, and inner- and outer-core walls. It was built by the slipform method, in which wooden forms were airlifted to position and the concrete was poured. Operating 24 hours a day, the process allowed the tower to rise about one-foot an hour and form completely in two weeks.*
>
> *The initial plans called for commercial space on the bottom floors and 204 residential units composing 25 floors of eight apartments plus one floor containing four penthouses. The exterior consists of a glass-curtain wall, recessed to form continuous balconies, with unobstructed views in every direction. Shortly after the grand opening, owner Henry Sassoon considered converting the tower into an apartment hotel because of lack of tenants. He also proposed a revolving restaurant atop the building. Neither was realized. In the mid-1980s, the International Tower was sold and approved for condominium status. (Mullio and Volland 2004:218)*

During the field survey, it was noted that the interior of the building had undergone extensive remodeling in recent years, but the exterior features remained essentially intact. The only notable exterior alteration is the reconfiguration and remodeling of the main entrance, which now faces the east and features a stone-lined rectangular portico, which is evidently of more recent construction.

CONSTRUCTION HISTORY

Originally named Tower Sixes, this building began construction in early 1964 on the site of the former El Mirador Hotel. Property owner and developer Henry Sassoon contracted architects Carl B. Troedsson and Charles Boldon, along with structural engineering firm T.Y. Lin and Associates, for its design. A swimming pool was

installed in 1966 and in 1967 offices were added, although it is not clear if these were interior conversions or new additions to the building. In 1971 the 6th, 11th and 14th floors were shifted to commercial use. LeRoy Misuraca, president of the International Tower Owners Association, recalls that the new entrance probably dates to the 1980s, when the main access to the building was moved from the north side to the east side.

SIGNIFICANCE EVALUATION

Henry Sassoon, a resident of Bel Air, built the International Tower at a cost of $7 million dollars. Citing high vacancies rates that resulted in financial losses of $2 million, Sassoon sold the building in August 1966 to California Federal Savings and Loan. International Tower, Ltd. became the titleholder in 1967. As stated above, the property was approved for condominium status in the 1980s. Tung-Yen (T.Y.) Lin was a professor emeritus in civil engineering at the University of California, Berkeley, and was considered one of the greatest structural engineers of his time. He pioneered pre-stressed concrete construction and had a profound influence on modern structural design. In 1986, Lin was presented with the prestigious National Medal of Science. A native of China, Lin died in 2003 at age 91. Although not yet 45 years old, the International Tower was surveyed and evaluated during this study due to the demonstrated interest that it commands among students of modern architectural history and technological innovation in the construction industry. Of particular note in the potential significance of the building are the following findings:

- It was once reportedly the tallest pre-stressed concrete building in the world;
- It represents a major project by Tung-Yen Lin, a well-recognized pioneer in that construction method; and
- Its unique design has made the building a well-known and prominent physical landmark at this location.

Although the entrance to the building has apparently been remodeled in more recent years, the relatively minor alterations have not compromised the most essential elements in the building's historic integrity, which lie in the overall design and construction of the tower itself. Based on these considerations, the International Tower appears to meet Criteria E, F, G, and I for designated by the City of Long Beach as a landmark, and may eventually prove to be eligible for listing in the California Register of Historical Resources once sufficient time has elapsed to allow the firm establishment of the building as a symbol of technological innovation and of its builder, Tung-Yen Lin, in his distinguished status in the history of construction technology.

777 E. Ocean Boulevard

In August 2005, PCR Services Corporation was contracted by the City of Long Beach to pursue a preliminary historical assessment of this building, partially because of a rumor that claimed it to have been designed by the firm of Killingsworth, Brady and Associates. The results of that study established that the building was in fact designed by Coppedge and Balance and Associates, "a local

design firm of little, if any, prominence in the architectural history of Long Beach or elsewhere." Built in 1975 to house the headquarters of Harbor Bank, this Post Modern structure, now occupied by a video rental store called Video Choice, has been significantly modified. Because of its recent age and the lack of any exceptional historical, architectural, or aesthetic merits, this building shows no potential to qualify as a "historical resource," and requires no further study.

800 E. Ocean Boulevard (Villa Riviera)

This 15-story, Chateauesque-style apartment building, once the tallest building on the southern California coast, is a designated City landmark and currently listed in both the National Register of Historic Places and the California Register of Historical Resources. Therefore, it clearly constitutes a "historical resource" for CEQA compliance purposes. In the National Register registration form, the architectural characteristics and the history of this building are documented and summarized as follows:

> *The Villa Riviera is eligible for listing in the National Register of Historic Places under Criterion C as an outstanding example of a Chateauesque style luxury apartment building. The building is widely recognized as one of the most important landmarks in the City of Long Beach, not only for the beauty of its architecture, but also for its sheer size at 277 feet and for its prominent location on the Pacific Coast. It stood as the tallest building in Long Beach until the ARCO towers were completed in the 1980s.*

Street Lights and Other Streetscape Features

During the survey, six Corsican-style street light standards that evidently date to the early 20th century were observed on the segment of Lime Avenue within the study area, including two within the project site. Characterized by fluted cast-iron shafts, Corinthian capitals, square bases, and acorn-type luminaries, these street light standards are similar but by far not identical to the many "old-fashioned" light standards scattered throughout the downtown area, which appear to be of a later vintage. A cursory survey of the surrounding neighborhood revealed the presence of four more identical light standards on adjacent blocks along Lime Avenue, farther to the north. However, no light standards of this type were found elsewhere in the downtown area.

Also noted in the study area were a number of other streetscape features that appear to date to the historic period, including traffic lights, mailboxes, and parking meters. These features, however, are all of standard design and exhibit no potential for any historic value.

Due to the lack of specific documentation, the exact age of the light standards noted in the study area is unclear, but they have been estimated to date to circa 1907-1920. As mentioned above, they appear identical to the streetlights that were purchased to illuminate the nearby Naples development, and in all likelihood may have come from the same source.

Due to their uncertain historical background, these streetlight standards do not demonstrate the potential to be considered eligible for listing in the California Register of Historical Resources or for local designation. Therefore, they do not meet CEQA's definition of "historical resources." However, as possibly the oldest surviving street lights in Long Beach's downtown area, they retain sufficient local historical interest to warrant some special consideration in local planning.

Boundary between Rancho Los Alamitos and Rancho Los Cerritos

Alamitos Avenue, on the eastern edge of the study area, runs along the line dividing two former Mexican land grants, Rancho Los Alamitos and Rancho Los Cerritos, on which the bulk of the City of Long Beach is now located. As previously stated, both of these ranchos were parts of a Spanish concession awarded to Juan Manuel Nieto in or around 1784, and both of them were later confirmed by the Mexican government in 1834 and eventually by the U.S. Government after the American annexation of Alta California in 1848. As elsewhere in California, the boundary between these two large land grants were customarily vague under Mexican rule, and was clearly delineated at this location through a series of surveys conducted by the U.S. General Land Office between 1858 and 1866.

Today, the location of the boundary is marked by a bronze plaque established by the Long Beach Parlor of the Native Sons of the Golden West at an unknown time, which stands on the southwestern corner of Alamitos Avenue and Ocean Boulevard. The rancho boundary itself, lying within the Alamitos Avenue right-of-way, retains no physical features related to the establishment of the two land grants. As a common feature throughout coastal California that is not closely associated with any historic persons or events, the rancho boundary does not retain the potential to be eligible for listing in the California Register of Historical Resources or for designation by the City of Long Beach as a landmark. However, in light of the importance of Rancho Los Alamitos and Rancho Los Cerritos to the city's past, it warrants special consideration in local planning as a site of local historical interest. The rancho boundary marker, as a commemorative property with no demonstrated historic significance of its own, is not considered a potential "historical resource," as defined by CEQA.

Victory Park

In 1920, the Long Beach City Council passed a resolution to designate the ocean bluff south of Ocean Boulevard and between Hart Court and Alamitos Avenue, informally called Bluff Park among local residence, as Victory Park. It was planned that artillery pieces and other mementoes of WWI would be placed in the park, and several flagpoles were also suggested. As dedicated in 1920, the eastern end of the park lies in the southwestern portion of the study area.

In later years, like many other parks and open space areas in downtown Long Beach, Victory Park was "virtually erased by commercial and civic development in the 1970s." Today, the two buildings in that portion of the study area, the Long Beach Towers at 600 E. Ocean Boulevard and the International Tower at 700 E. Ocean Boulevard, both occupy parts of the former parkland, and the only remnant of Victory Park within the study area is the strip of landscaping between these buildings and Ocean Boulevard). Since the park essentially no longer exists in the study area,

and since the proposed project, lying across Ocean Boulevard, has no potential to affect its remnants, Victory Park requires no further consideration during this study.

5.7.2 SIGNIFICANCE THRESHOLD CRITERIA

According to Appendix G, the Initial Study Checklist, of the *CEQA Guidelines*, a project would typically have a significant impact on cultural resources if the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to *CEQA Guidelines* Section 15064.5; refer to Section 10.0, *Effects Found Not to be Significant*;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; refer to Section 10.0, *Effects Found Not to be Significant*; and/or
- Disturb any human remains, including those interred outside of formal cemeteries feature; refer to Section 10.0, *Effects Found Not to be Significant*.

HISTORICAL PROPERTIES

Under Section 106 provisions, Federal agencies, as well as state or local agencies receiving federal funding, are required to take into account the effects of their undertakings on historic properties and seek ways to avoid, minimize, or mitigate any adverse effects on such properties (36 Code of Federal Regulations [CFR] 800.1(a)).

"Historic properties," as defined by the Advisory Council on Historic Preservation, include any "prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior" (36 CFR 800.16(l)). The eligibility for inclusion in the National Register is determined by applying the following criteria, developed by the National Park Service as per provision of the National Historic Preservation Act (NHPA):

> *The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and*
>
> *(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or*
> *(b) that are associated with the lives of persons significant in our past; or*
> (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) that have yielded, or may be likely to yield, information important in prehistory or history. (36 CFR 60.4)

According to 36 CFR 800.16(i), "*Effect* means alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register." In 36 CFR 800.5(a)(1), the criteria of "adverse effect" are set forth as follows:

An adverse effect is found when an undertaking may alter, directly or indirectly, and of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

HISTORICAL RESOURCES

The purpose of this analysis is to identify any potential historical resources within or adjacent to the project site, and to assist the Lead Agency in determining whether such resources meet the official definitions of "historical resources," as provided in the California PRC (and CEQA, in particular).

For CEQA-compliance considerations, the State of California's Public Resources Code (PRC) establishes the definitions and criteria for "historical resources," which require similar protection to what NHPA Section 106 mandates for historic properties. "Historical resources," according to PRC §5020.1(j), "includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California." More specifically, *CEQA Guidelines* state that the term "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the Lead Agency (Title 14 California Code of Regulations [CCR] §15064.5(a)(1)-(3)).

Regarding the proper criteria of historical significance, *CEQA Guidelines* mandate that "a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources" (Title 14 CCR §15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

(2) Is associated with the lives of persons important in our past.

(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

(4) Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1(c)).

CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC Section 21084.1). "Substantial adverse change," according to PRC Section 5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired."

A local register of historical resources, as defined by PRC §5020.1(k), "means a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution." For properties within the City of Long Beach, the City's Cultural Heritage Commission Ordinance provides criteria for designation of "landmarks" and "landmark districts," per *Long Beach Municipal Code* Section 2.63.050. A cultural resource may be designated as a landmark if it meets one of the following criteria:

A. It possesses a significant character, interest or value attributable to the development, heritage or cultural characteristics of the city, the southern California region, the state or the nation; or

B. It is the site of an historic event with a significant place in history; or

C. It is associated with the life of a person or persons significant to the community, city, region or nation; or

D. It portrays the environment in an era of history characterized by a distinctive architectural style; or

E. It embodies those distinguishing characteristics of an architectural type or engineering specimen; or

F. It is the work of a person or persons whose work has significantly influenced the development of the city or the southern California region; or

G. It contains elements of design, detail, materials, or craftsmanship which represent a significant innovation; or

H. It is a part of or related to a distinctive area and should be developed or preserved according to a specific historical, cultural or architectural motif; or

I. It represents an established and familiar visual feature of a neighborhood or community due to its unique location or specific distinguishing characteristic; or

J. It is, or has been, a valuable information source important to the prehistory or history of the city, the Southern California region or the state; or

K. It is one of the few remaining examples in the city, region, state or nation possessing distinguishing characteristics of an architectural or historical type.

Pursuant to these statutory and regulatory guidelines, "historical resources" in the project area are evaluated under both the California Register criteria and those for local designations.

Based on these standards, the effects of the proposed project have been categorized as either a "less than significant impact" or a potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact.

5.7.3 IMPACTS AND MITIGATION MEASURES

HISTORICAL RESOURCES

- **IMPLEMENTATION OF THE PROPOSED PROJECT COULD CAUSE A SIGNIFICANT IMPACT TO HISTORICAL RESOURCES WITHIN THE PROJECT AREA.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment." (PRC §21084.1). "Substantial adverse change," according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."

Of the total of 19 properties surveyed and evaluated during the CRM Tech study, five buildings meet CEQA's definition of "historical resources," including the Villa Riviera at 800 E. Ocean Boulevard, a City landmark that is also listed in the National Register of Historic Places and the California Register of Historical Resources; the Artaban Apartments at 10 Atlantic Avenue, a City landmark that appears eligible for listing in the California Register of Historical Resources; and the three buildings at 40 Atlantic Avenue, 703-705 Medio Street, and 700 E. Ocean Boulevard (International Tower), which appear eligible for designation as City landmarks.

In addition to these "historical resources," three other properties, including the building at 711 Medio Street, the boundary between Rancho Los Alamitos and Rancho Los Cerritos, and the early 20th century street light standards on Lime Street, warrant special consideration in local planning due to their local historic value. The following analysis examines the proposed project's potential impacts on these eight

properties, and determines whether such impacts constitute "a substantial adverse change in the significance of a historical resource."

10 Atlantic Avenue (Artaban Apartments). The historic significance of the Artaban Apartment stems primarily from its association with a pattern of historic events that was important in local history and secondarily from its architectural merit and its long presence as a familiar visual feature in the neighborhood. The building retains excellent integrity in the aspects of location, design, materials, workmanship, and association, which would not be affected by the proposed project since it stands outside the project boundaries.

The current project plan calls for the construction of a 12-story building to the northeast of the Artaban Apartments. The presence of this new building would have a visual and atmospheric effect on the Artaban Apartments integrity in terms of setting and feeling. However, these aspects of the Artaban Apartments' integrity have been significantly compromised in the past, now that it is surrounded on all sides by modern or modern looking buildings. Furthermore, the placement of the proposed new building would avoid visual intrusion on the Artaban Apartment's more ornate western and southern façades, which contain essentially all of its character-defining architectural elements. The indirect effects of the proposed project on the Artaban Apartments, therefore, is not considered a substantial adverse change in its significance and integrity. No mitigation measures are recommended for this "historical resource."

40 Atlantic Avenue. Based on the CRM Tech study results, the historic significance of the building is embodied primarily in the modern-style façade that was designed and implemented by famed local architect Kenneth S. Wing, Sr., in 1967, around the time when Mr. Wing moved his architectural design studio to this location. The remainder of the otherwise unremarkable structure, although more than 40 years old, contributes little to the significance of this property.

The project plan calls for the demolition of this building, which clearly constitutes "a substantial adverse change in the significance of a historical resource." Recommended mitigation includes a comprehensive documentation program (including photographic recordation), a detailed written description, scaled mapping, and compilation of historical background be completed for this building prior to the commencement of the project. A commemorative plaque identifying the association of Kenneth S. Wing, Sr., to this location is also to be established at or near the site of the building. However, the implementation of these mitigation measures would not reduce project effects to a level less than significant. If demolition or other substantial physical alterations to the building is to occur, particularly to the Kenneth Wing-era façade, the project would have a significant and unavoidable effect on a "historical resource."

In order to better preserve the integrity of this "historical resource," a project alternative should be considered so that the building, or at a minimum, the existing façade, which is the most important character-defining feature of the structure, be retained, rehabilitated as necessary, and incorporated into the project. If demolition of or other substantial physical alterations to the façade can be avoided, the project's potential effect to this "historical resource" would be reduced.

703-705 Medio Street. The historic significance of this building is derived primarily from its outstanding architectural merit and secondarily from its long presence as a familiar visual feature in the neighborhood. Since it is located outside the project boundaries, the proposed development would not have a direct impact on the building's architectural integrity and its character-defining features. As a three-story structure located in a mixed-use area with several existing high-rise buildings and parking lots at the former sites of demolished buildings, the original setting of this building, as related to its period of origin in the 1920s, is no longer intact. The implementation of the proposed project would not further compromise the setting and feeling of this "historical resource," nor would the potential visual and atmospheric intrusion significantly affect the view of this building as a localized neighborhood landmark. Therefore, the proposed project would not cause a substantial adverse change in its significance and integrity, and no mitigation measures are recommended.

711 Medio Street. The significance of this building lies in its notable architectural design by the firm of Killingsworth, Brady, and Smith. Located adjacent to the building at 703-705 Medio Street, this building would not be adversely affected by the proposed project for the same reason discussed above. No mitigation measures are recommended for this property.

700 E. Ocean Boulevard (International Tower). The International Tower attains its historic significance through its architectural merit, especially in the aspect of technological innovation, and through its widely recognized status as a prominent physical landmark. Since it is located outside the project boundaries, the proposed project would not have any effect on the architectural and technological characteristics of the International Tower, or any other direct impact.

The construction of the 21-story, 233-foot stepped slab building and the 12-story, 124-foot building across Ocean Boulevard would impose some visual affect on the view of the 27-story (above-ground), 278-foot International Tower, but such affect would be localized to certain directions. Most importantly, the new buildings would not block the primary vantages along Ocean Boulevard and Lime Avenue, which according to the project plan would be vacated for the construction of a landscaped paseo. Based on these considerations, the CRM Tech study concludes that the proposed project's potential indirect effect on this "historical resource" would not constitute a substantial adverse change in its significance and integrity. No mitigation measures are recommended.

800 E. Ocean Boulevard (Villa Riviera). Similar to the International Tower, the Villa Riviera would not receive any direct effect from the proposed project. Also as in the case of the International Tower, the construction of a 22-story, 284-foot residential tower on the northwestern corner of Alamitos Avenue and Ocean Boulevard would bring about some visual affect to the Villa Riviera, but would not affect the primary vantages from either of the two main thoroughfares. Therefore, the project would not cause a substantial adverse change in the significance and integrity of this "historical resource," and no mitigation measures are recommended.

Street Lights. As stated above, two of the six early 20th century street light standards noted in the study area are located within the project boundaries, on the west side of

Lime Avenue. At the present time, the proposed project plan is unclear as to the future disposition of these two light standards, and the implementation of the project may have an adverse effect on these historic features. The other four light standards in the study area, however, would not be affected. Mitigation measures for the two light standards that would be affected has been identified.

Rancho Boundary. As a symbolic site with no physical components, this historic site of local historic interest would receive no effect from the proposed project. No mitigation measures are recommended.

Summary of Conclusion

As stated above, among the five properties that constitute "historical resources" under CEQA provisions and the three that warrant special consideration in local planning, the building at 40 Atlantic Avenue would be adversely affected by the proposed project, and two of the six street light standards noted in the study area may be affected. Although mitigation measures are recommended, the impact to 40 Atlantic Avenue would remain significant and unavoidable.

Mitigation Measures:

CUL-1 Prior Demolition and Grading Permit Issuance, a comprehensive documentation program, including photographic recordation, detailed written description, scaled mapping and compilation of historical background pursuant to the Secretary of Interiors Standards for historical documentation shall be completed for 40 Atlantic Avenue.

CUL-2 A commemorative plaque commemorating the association of Kenneth S. Wing, Sr. to the 40 Atlantic Avenue shall be established at or near the site of the existing building.

CUL-3 The two early 20th century Corsican-style street light standards within the project boundary shall be protected during construction and reused after rehabilitation, either at or near the current locations, or at appropriate sites nearby.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

5.7.4 CUMULATIVE IMPACTS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS WOULD NOT RESULT IN CUMULATIVELY CONSIDERABLE CULTURAL RESOURCES IMPACTS.**

Level of Significance Prior to Mitigation: Less Than Significant Impact.

Impact Analysis: Potential impacts would be site and project area specific and an evaluation of potential impacts would be conducted on a project-by-project basis. Each incremental development would be required to comply with all applicable City, State and Federal regulations concerning preservation, salvage, or handling of

cultural resources. In consideration of these regulations, potential cumulative impacts upon cultural resources would not be considered significant.

Mitigation Measures: No mitigation measures are recommended.

Level of Significance After Mitigation: Not applicable.

5.7.5 SIGNIFICANT UNAVOIDABLE IMPACTS

Despite recommended mitigation measures, the demolition of the 40 Atlantic Avenue building on the project site has been concluded to be significant and unavoidable.

If the City of Long Beach approves the Shoreline Gateway Project, the City shall be required to adopt findings in accordance with Section 15091 of the CEQA Guidelines and prepare a statement of overriding considerations in accordance with Section 15093 of the CEQA Guidelines.

5.8 PUBLIC SERVICES AND UTILITIES

Information in this section was based upon information from public service and utility agencies; refer to Appendix 15.1, *Initial Study and Notice of Preparation*, Appendix 15.8, *Correspondence* and other references. Public services include fire protection, police protection, schools and library services, as well as recreation. Utilities include water, wastewater (sewers), solid waste, electricity and natural gas.

This section provides existing conditions and background information necessary to determine potential impacts of the proposed project. Criteria by which an impact may be considered potentially significant is provided, along with discussion of impacts pursuant to Appendix G of the *CEQA Guidelines*. Mitigation measures are identified to avoid or reduce potential impacts to less than significant levels.

5.8.1 ENVIRONMENTAL SETTING

FIRE PROTECTION

The Long Beach Fire Department (LBFD) provides fire protection and emergency medical services to a 55 square mile area from 23 fire stations in the community. Fire Stations 1, 2 and 3 serve the project site. Table 5.8-1, *Fire Station Information*, details fire and paramedic resources serving the project area.

Table 5.8-1
Fire Station Information

Equipment	Manpower	Response Distance (miles)	Response Time (minutes)
Fire Station 1 237 Magnolia Avenue (90802) 2 Engines, 1 Truck, 1 Paramedic Vehicle	14 (2 Paramedics, 12 EMT's)	1.1	1-2
Fire Station 2 1645 E. 3 Street (90802) 1 Engine, 1 Paramedic Vehicle	6 (4 EMT's, 2 Paramedics)	0.9	2-3
Fire Station 3 1222 Daisy Avenue (90813) 1 Engine	4 (4 EMT's)	2.1	2-4
Source: Steve Lewis (Deputy Chief of Operations), City of Long Beach, December 20, 2005.			
EMT = Emergency Medical Technician.			

FIRE HAZARDS

The *City of Long Beach General Plan (General Plan)* includes a Public Safety Element (1975), which identifies potential safety hazards and establishes policies to protect life and property from natural and man-made hazards. The element establishes goals for public safety, addresses various public safety topics and makes recommendations for attaining public safety goals. It establishes a decision-making framework for City leaders to evaluate land use issues for their safety impact. The Public Safety Element provides recommendations for hazard mitigation and ensures that adequate emergency response can be provided when needed.

Fires are generally categorized as either urban fires or brush fires. The City of Long Beach is primarily built out and as a result does not typically experience brush fires. The downtown area of Long Beach is highly urbanized with several high-rise buildings and older and sometimes deteriorated structures. The Public Safety Element of the *General Plan* identifies the project site and surrounding area as a "critical" fire hazard area. The "critical" classification is based upon categories established by the LBFD, which include multiple dwellings, accumulation of small businesses, mixed occupancies, two to three story wood frame buildings, small manufacturing, car lots, railroad and wharf property and schools.[1]

FIRE PREVENTION

Fire prevention laws and regulations at the State and local levels are considered adequate. Hazardous fire conditions are regulated within the City through the permit issuance program and the business licenses approval required by the Fire Prevention Bureau. Special permits are required for most hazardous materials and all business license applications are required to be filed annually and approved by the Fire Prevention Bureau. Additionally, the Fire Prevention Bureau assures that newly constructed buildings are designed with correct fire protection and life safety systems built into them and that existing structures meet Fire Code requirements and standards.

FIRE CODE

Chapter 18.48, Fire Code, of the *City of Long Beach Municipal Code (Municipal Code)* adopts the California Fire Code (CFC) with amendments and modifications, and portions of the Uniform Fire Code (UFC) not included as part of the CFC. These codes are adopted by reference and collectively comprise the *Long Beach Fire Code* (*Fire Code*). The *Fire Code* includes provisions for fire department access, water supply, plan approval, fire protection systems and equipment, hazardous materials management and permits. Fire-flow requirements are based on building types and floor area and are determined by the LBFD on a project-by-project basis.

The City's *Fire Code* defines a high-rise structure as any "building of any type of construction or occupancy having floors used for human occupancy located more than seventy-five feet above the lowest level of Fire Department vehicle access". The *Fire Code* requires that each high-rise building have an emergency helicopter

[1] *City of Long Beach General Plan*, Public Safety Element, May 1975 (Reprint 2004).

landing facility located on the roof of the building in an area approved by the LBFD and that the landing facility be for emergency operations only. Additionally, depending upon the height and size of the structure, additional provisions such as sprinklers and on-site fire hydrants, may be required in accordance with the *Fire Code*.

POLICE PROTECTION

The Long Beach Police Department (LBPD) provides police protection to the City. Currently located at 400 West Broadway, the LBPD is comprised of four bureaus: Investigations, Support, Patrol and Administration.

The Patrol Bureau of the LBPD is divided into four patrol divisions (South, West, East and North). The South Patrol Division (400 West Broadway) responds to calls for service and coordinates the Tourist Police Bicycle Unit. This unit polices the downtown and oceanfront recreation areas. Opened in 1997, the West Patrol Substation (1835 Santa Fe Avenue) responds to calls for service in the western quadrant of the City. Opened in 1994, the East Patrol Substation (4800 Los Coyotes Diagonal) responds to calls for service in the eastern quadrant of the City, including Belmont Shore and several outdoor entertainment centers. Reopened in 2004, the North Patrol Substation (4891 Atlantic Avenue) works with Los Angeles County Parole and Probation Departments, developing joint task forces to address parole or probation violations. Additionally, officers in the North Division work closely with the California Highway Patrol and adjacent law enforcement agencies to manage criminal activity that crosses jurisdictions.[2]

According to the LBPD, the South Division serves a geographic area of 3.2 square miles (including the project site), and currently has approximately 40 patrol vehicles assigned. The approximate response time to the project site is 4.2 minutes for priority one calls (immediate and/or life threatening), 19.9 minutes for priority 2 calls (immediate, but not life threatening) and 28.3 minutes for priority 3 calls (crime has already occurred or is not immediate and/or life threatening).[3] The LBPD goal for responding to priority one calls is under five minutes.

SCHOOLS

The project site is served by the Long Beach Unified School District (LBUSD). As the third largest school district in California, LBUSD educates more than 95,000 students in 95 public schools in the cities of Long Beach, Lakewood, Signal Hill and Avalon (Catalina Island). Children residing within the project area are within the jurisdiction of Stevenson Elementary School, Franklin Middle School and Polytechnic High School. Table 5.8-2, *School Information*, provides the location, capacity and enrollment of the schools serving the project site.

[2] City of Long Beach, "Long Beach Police Department", http://www.ci.long-beach.ca.us/police/ default.asp, (accessed on August 2, 2005).

[3] Based on March 2006 data as provided by Steven L. Ditmars (Lieutenant), Long Beach Police Department, Information Technology Division, March 3, 2006.

Table 5.8-2
School Information

School	Capacity	Enrollment[1]
Chavez Elementary School 730 West 3rd Street	775	519
Franklin Middle School 540 Cerritos Avenue	1,704	1,270
Polytechnic High School 1600 Atlantic Avenue	3,562	4,399
Source: Telephone conversation/e-mail with Cliff Bagget, Long Beach Unified School District, January 12, 2006 and June 19, 2006.		
[1] Enrollment numbers as of September 23, 2005.		

SCHOOL FUNDING

The State of California has traditionally been responsible for the funding of local public schools. To assist in providing facilities to serve students generated by new development projects, the State passed Assembly Bill 2926 (AB 2926) in 1986. This bill allowed school districts to collect impact fees from developers of new residential and commercial/industrial building space. Development impact fees were also referenced in the 1987 Leroy Greene Lease-Purchase Act, which required school districts to contribute a matching share of project costs for construction, modernization or reconstruction.

Senate Bill 50 (SB 50) and Proposition 1A (both of which passed in 1998) provided a comprehensive school facilities financing and reform program by, among other methods, authorizing a $9.2 billion school facilities bond issue, school construction cost containment provisions and an eight-year suspension of the Mira, Hart and Murrieta court cases. Specifically, the bond funds are to provide $2.9 billion for new construction and $2.1 billion for reconstruction/modernization needs. The provisions of SB 50 prohibit local agencies from denying either legislative or adjudicative land use approvals on the basis that school facilities are inadequate and reinstate the school facility fee cap for legislative actions (e.g., general plan amendments, specific plan adoption, zoning plan amendments) as was allowed under the Mira, Hart and Murrieta court cases. According to Government Code Section 65996, the development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation." These provisions are in effect until 2006 and will remain in place as long as subsequent state bonds are approved and available.

SB 50 establishes three levels of Developer Fees that may be imposed upon new development by the governing board of a school district depending upon certain conditions within a district. These three levels are described below:

Level 1: Level 1 fees are the base statutory fees. These amounts are the maximum that can be legally imposed upon new development projects by a school district unless the district qualifies for a higher level of funding.

Level 2: Level 2 fees allow the school district to impose developer fees above the statutory levels, up to 50 percent of certain costs under designated circumstances. The State would match the 50 percent funding if funds are available. Under Level 2, the governing board of a school district may require a developer to finance up to 50 percent of new school construction costs. However, in order to qualify for Level 2 funding the district must satisfy at least one of the following four requirements until January 1, 2000, or satisfy at least two of the four requirements after January 1, 2000:

- Impose a Multi Track Year Round Education (MTYRE) with:
  - At least 30 percent of K-6 enrollment in the high school attendance area on MTYRE for unified and elementary school districts; or
  - At least 30 percent of high school district enrollment on MTYRE; or
  - At least 40 percent of K-12 enrollment on MTYRE within boundaries of the high school attendance area for which the district is applying for funding.
- Place a local bond measure on the ballot in the last four years which received at least 50 percent plus 1 of the votes.
- District has issued debt or incurred obligations for capital outlay equal to a specified (under Government Code 65995.5(b)(3)(C)) percentage of its local bonding capacity.
- At least 20 percent of teaching stations within the district are portable classrooms.

Level 3: Level 3 fees apply if the State runs out of bond funds after 2006, allowing the school district to impose 100 percent of the cost of the school facility or mitigation minus any local dedicated school moneys.

In order to accommodate students from new development projects, school districts may alternatively finance new schools through special school construction funding resolutions and/or agreements between developers, the affected school districts and occasionally, other local governmental agencies. These special resolutions and agreements often allow school districts to realize school mitigation funds in excess of the developer fees allowed under SB 50.

According to the LBUSD, current "Statutory School Fees (Developer Fees)" are $2.24 per square foot for residential and $0.36 per square foot for commercial/ industrial uses.[4] However, it should be noted that the State Allocation Board would be meeting in early 2006 for a possible recommendation of a fee increase. Additionally, LBUSD is currently in the planning stages of developing a Master Plan, which will evaluate the need for new schools depending upon student growth and available funding.

[4] Carri M. Matsumoto (Executive Director), Long Beach Unified School District, October 18, 2005.

LIBRARIES

The Main Branch of the Long Beach Public Library is located at 101 Pacific Avenue and serves the City of Long Beach as well as the project site. The Library is 135,000 square feet with seating capacity for 300 people. There are currently 30 public access computers and a wireless (WiFi) environment available to library patrons. The library offers computers with Internet access, the library catalog, a community resource file, and various on-line reference resources. Additionally, the library has a meeting room, auditorium and auditorium lobby available for rent. Various programs provided by the Long Beach Public Library include free Internet classes and the Family Learning Center, which provides homework assistance for students in grades K - 8. The center is staffed with homework helpers to provide help with homework assignments and computer instruction.

PARKS AND RECREATION

The Long Beach Parks, Recreation and Marine Department operates approximately 3,100 acres of recreation area, including 92 parks with 25 community centers, two major tennis centers, five municipal golf courses, 3,800 boat slips and 11 miles of beaches.[5] Six parks are located within an approximately one-mile radius of the project site and comprise over 100 acres of cumulative park or open space. The parks consist of a greenbelt/passive park, a mini-park, two community parks and special use parks, as described below.[6]

Victory Park. Victory Park is situated south of Ocean Boulevard, approximately 120 feet south of the project site. The 80-foot wide linear park totals 4.43 acres, and stretches from Alamitos Avenue to Magnolia Avenue. Approximately 1.28 acres is located on the block immediately across from the project site. Victory Park is categorized as a greenbelt and is passive in use.

East Village Arts Park. East Village Arts Park is located approximately 0.23 mile from the project site near Broadway and Elm Avenue. The 0.09-acre park is categorized as a mini-park and is a passive park designed for art displays and neighborhood events.

Marina Green. Located south of Ocean Boulevard and Shoreline Drive (approximately 870 feet from the project site), Marina Green is a special use park comprised of 9.39 acres. Marina Green was designed as a visual buffer between the downtown and the Long Beach Shoreline Marina parking lot. It is a mounded lawn area with minimal trees and no recreational amenities. The park has evolved into an area utilized during large outdoor events including Grand Prix bleachers, Boat Show displays and Gay Pride Parade retail vendors.

[5] City of Long Beach, "Parks, Recreation and Marine"/About the Department, http://www.ci.long-beach.ca.us/park/about/default.asp (accessed February 24, 2006).

[6] Dennis Eschen (Manager of Planning and Development), City of Long Beach Department of Parks, Recreation and Marine, December 28, 2005.

Alamitos Beach. Located southeast of the project site (approximately 900 feet), Alamitos Beach is a 47.42-acre ocean front beach. The beach is categorized as a regional park and contains a paved bicycle path, paved parking and a concession stand/restroom.

Cesar E. Chavez Park. Cesar E. Chavez Park is a community park located approximately one mile northwest of the project site. The park is comprised of approximately 32.43-acres, of which 9.66 acres are categorized as an active park with the remaining area having restricted public access. The park contains a community recreation center, two playgrounds, basketball court, amphitheater, picnic areas and open lawn areas where informal field sport activities occur.

Bixby Park. Bixby Park is 16.68 acres located approximately one mile east of the project site. Categorized as a community park, it contains a community recreation center building, bandstand, playground, basketball court, picnic tables, fountain and open lawn area where informal field sport activities occur. Existing approved plans will restore the bandstand to its historic character and construct an amphitheater, skate plaza and picnic area at the base of the ocean bluff.

Although Cesar E. Chavez and Bixby Parks are categorized as community parks, the lack of sports fields prevent them from being full service community parks. Bixby Park is the nearest site that functions as a neighborhood park with a playground. It is currently drawing residents for this function from almost four times the service radius standard of 0.25 mile, and is therefore considered severely overcrowded.[7] The total population served by the park (63,359 persons) is the second highest of any park in the City. Additionally, the population served per acre (4,499 persons) is also the second highest in the City. Cesar E. Chavez Park is only slightly less impacted, as it currently serves 3,421 persons per acre.

PARK STANDARDS

The City of Long Beach has established a standard of 8.0 acres of recreational open space per 1,000 residents. Recreational open space is defined to include parks, golf courses, nature preserves, beaches and recreational water areas (Alamitos Bay and the water inside the Long Beach Shoreline Marina). Based on the January 2005 population of 491,564[8] persons, the City of Long Beach should maintain approximately 3,933 acres of recreational open space. With approximately 3,100 acres of recreational open space within the City, the City is currently deficient in providing recreational open space by approximately 833 acres.

In addition to the recreational open space standard, the City has established standards for the type and size of parkland that should occur within a given distance from each residence, as indicated in Table 5.8-3, *Standards for Park Facilities*. Based upon the 2005 population estimates, a shortage of facilities currently exists within the City.

[7] *Ibid*.

[8] California Department of Finance, E-1 Report: City/County Population Estimates, January 2005.

Table 5.8-3
Standards for Park Facilities

Facility	Population Served	Service Area (mile)	Shortage[1] (acres)
Playground	5,000	0.25	25
Swimming Pool	50,000	1.0	6
Tennis Court	7,500	0.5	5
Basketball Court	2,000	0.25	29
Football/Soccer Field	5,000	1.0	55
Baseball/Softball	5,000	1.0	32
Community Center	1 square foot/resident	1.0	330,936 sq.ft.

Source: Dennis Eschen (Manager of Planning and Development), City of Long Beach Department of Parks, Recreation and Marine, December 28, 2005.

[1] Based on 2005 population estimates of the California Department of Finance. All other figures are from the 2000 U.S. Census.

PARK FEES

Chapter 18.18 of the *Long Beach Municipal Code* requires payment of park fees for parkland acquisition and recreation improvements, prior to the issuance of certificate of occupancy for residential developments, as defined in the *Municipal Code*. The park fee imposed on residential development projects reflects the specific project's share of the cost of providing parkland and improvements to meet the needs created by the residential development at established City service level standards.

WATER

WATER SUPPLY

The project site is served by the Long Beach Water Department (LBWD). The LBWD meets its water demand needs through four main sources: Metropolitan Water District, groundwater from the Central Basin, conservation efforts and reclaimed water. Approximately 42 percent of the water supply consists of imported water obtained from the Metropolitan Water District (MWD), approximately 38 percent is from groundwater, conservation efforts are responsible for 14 percent and recycled water represents approximately six percent.[9] Reclaimed water is primarily used to irrigate large municipal landscapes such as City parks and golf courses.

The MWD recalculates each of its member agency's preferential rights on an annual basis. According to the 2005 calculation, LBWD's right to MWD imported water is 39,150 acre-feet (AF) per year. This represents a worse case scenario of harsh hydrological conditions that limit imported water supplies over an extended period of

[9] Long Beach Water Department, water supply portfolio 2006, www.lbwater.org, http://www.lbwater.org/drinking_ water/wtr_supply_portf_04.html (November 30, 2005).

time. However, the amount of water represented by LBWD's preferential rights (39,150 AF/year) typically exceeds the demand for water during these conditions.

At this time, the LBWD continues to meet the water demands of its customers and has programs in place to add additional supply sources and increase water conservation. The LBWD is currently in the process of developing its 2005 Urban Water Management Plan.

WATER SUPPLY ASSESSMENT

Senate Bills 221 and 610. Senate Bills 221 and 610 were signed into law in 2001 and took effect January 1, 2002. The two bills amended State law to better link information on water supply availability to certain land use decisions by cities and counties. The two companion bills provide a regulatory forum that requires more collaborative planning between local water suppliers and cities and counties. All SB 610 and 221 reports are generated and adopted by the public water supplier.

Senate Bill (SB) 610 requires a detailed report regarding water availability and planning for additional water supplies that is included with the environmental document for specified projects. All projects that meet any of the following criteria require the water availability assessment:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A proposed hotel and motel having more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or an industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of the projects specified in this subdivision; or
- A project that would demand an amount of water equivalent to or greater than the amount of water required by a 500 dwelling unit project.

While SB 610 primarily affects the Water Code, SB 221 principally applies to the Subdivision Map Act. The primary effect of SB 221 is to condition every tentative map for an applicable subdivision on the applicant by verifying that the public water supplier (PWS) has sufficient water supply available to serve it. Under SB 221, approval by a city or county of certain residential subdivisions requires a written verification of sufficient water supply. SB 221 applies to any subdivision, defined as:

- A proposed residential development of more than 500 dwelling units (if the PWS has more than 5,000 service connections); or

- Any proposed development that increases connections by 10 percent or more (if the PWS has fewer than 5,000 connections).

The project proposes the development of 358 residential units and 13,561 square feet of retail/gallery space. Therefore, the proposed project would not be subject to SB 610 or SB 221.

Existing Water Demand and Facilities

According to the Long Beach Water Department, annual water use averages 70,000 acre feet (AF) with an average daily flow of 96 cubic feet per second (cfs).[10] Since January 2000, peak demand has been 87.21 million gallons (MG).[11]

The project site is currently developed with 63 residential units and approximately 20,981 square feet of retail, restaurant and office uses. As indicated in Table 5.8-4, *Existing Water Demand*, existing water demand for the project site is approximately 20.38 AF/year.

Table 5.8-4
Existing Water Demand

Land Use	Building Area (s.f.)	Dwelling Units (du)	Demand Factor[1]		Existing Demand (AF/year)
			AF/year/du	AF/year/1 million s.f.	
Residential	--	63	0.249	--	15.69
Retail/restaurant/office	20,981	--	--	224	4.69
Totals	**20,981**	**63**			**20.38**

s.f. = square feet; du = dwelling unit(s); AF = acre feet.

[1] Demand factors based on Water Availability Assessment for the PacifiCenter @ Long Beach, Prepared by LBWD, December 2002.

EXISTING WATER FACILITIES

Existing water system facilities are located adjacent to the project site, which include a 6-inch line in Broadway Court, 8-inch lines in Bronce Way and Medio Street, a 12-inch line in Ocean Boulevard and a 20-inch water main in Alamitos Avenue.[12]

[10] Matthew P. Lyons (Manager of Planning and Conservation), Long Beach Water Department, January 20, 2006.

[11] *Ibid.*

[12] Robert Villanueva, P.E. (Division Engineer), Long Beach Water Department, November 28, 2005.

WASTEWATER (SEWERS)

WASTEWATER SERVICE

In 1988 the Long Beach Water Department assumed the responsibility of the various functions of the City's sanitary sewer system, including operations and maintenance. The Long Beach Water Department operates and maintains nearly 765 miles of sanitary sewer line, delivering over 40 million gallons per day (mgd) to Los Angeles County Sanitation Districts facilities located on the north and south sides of the City of Long Beach.[13]

Wastewater flow from the project area is discharged to local sewer lines (maintained by the LBWD for conveyance to the Districts' DeForest Avenue Trunk Sewer, located in the right of way along the west side of the Long Beach Freeway at Broadway. The 36-inch diameter trunk sewer has a design capacity of 20 mgd and conveyed a peak flow of 5.7 mgd when last measured in 2003.[14]

Wastewater generated from the project area is treated at the Joint Water Pollution Control Plant (JWPCP) located in the City of Carson. The JWPCP is the largest of the Districts' wastewater treatment plants, providing advanced primary and partial secondary treatment with a design capacity of 385 mgd of wastewater. The plant currently processes an average flow of 324.9 mgd of wastewater.[15]

At the JWPCP, the treated wastewater is disinfected with chlorine and sent to the Pacific Ocean through networks of outfalls that extend two miles off the Palos Verdes Peninsula to a depth of 200 feet.[16]

The design capacities of the Sanitation Districts' wastewater treatment facilities are based on the regional growth forecast adopted by SCAG. In order to conform to the Federal Clean Air Act (FCAA), all expansions of facilities must be sized and service phased in a manner consistent with SCAG regional growth forecasts. The available capacity of the treatment facilities is therefore limited to levels associated with approved growth identified by SCAG.

The Sanitation Districts are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting (directly or indirectly) to the Sanitation Districts' sewerage system or increasing the existing strength and/or quantity of wastewater attributable to a particular parcel or operation already connected. This connection fee is required to construct an incremental expansion of the sewerage system to accommodate future development, which will mitigate the impact of development projects on the present sewerage system.

[13] Long Beach Water Department, http://www.lbwater.org/sewers/sewage_treatment.html (November 30, 2005).

[14] Ruth I. Frazen (Engineering Technician), Finance & Property Management Section, County Sanitation Districts of Los Angeles County.

[15] *Ibid.*

[16] Long Beach Water Department, http://www.lbwater.org/sewers/sewage_treatment.html (November 30, 2005).

EXISTING WASTEWATER GENERATION AND FACILITIES

The project site is currently developed with 63 residential units and approximately 20,981 square feet of retail, restaurant and office uses. As indicated in Table 5.8-5, *Existing Wastewater Generation*, existing wastewater generated from the project site is approximately 19,795 gallons per day.

Table 5.8-5
Existing Wastewater Generation

Land Use	Building Area (s.f.)	Dwelling Units (du)	Demand Factor[1]		Existing Generation gpd
			Gallons/person/day	Gallons/tsf/day	
Residential	--	63	85 x 2.913 persons per du[2]	--	15,599
Retail/restaurant/Office	20,981	--	--	200	4,196
Totals	**20,981**	**63**			**19,795**

s.f. = square feet; du = dwelling unit; tsf = thousand square feet; gpd = gallons per day.

1 Demand factors based on the Comprehensive Sewer System Master Plan and Management Program provided by the LBWD.

2 2.913 persons per household per the State of California Department of Finance, 2005.

Wastewater lines currently existing near the project site include 8-inch sewer lines within Broadway Court, Ocean Boulevard, Medio Street and Alamitos Avenue.

ELECTRICITY

REGULATORY FRAMEWORK

The California Public Utilities Commission (CPUC) regulates investor-owned electric power and natural gas utility companies in the State of California. Assembly Bill 1890, enacted in 1996, deregulated the power generation industry, allowing customers to purchase electricity on the open market. Under deregulation, the production and distribution of power that was under the control of investor-owned utilities (e.g., Southern California Edison) was decoupled.

All new construction in the State of California is subject to the energy conservation standards set forth in Title 24, Part 6, Article 2 of the California Administrative Code. These are prescriptive standards that establish maximum energy consumption levels for the heating and cooling of new buildings.

The utilization of alternative energy applications in development projects (including the proposed project), while encouraged, is not required as a development condition. Such applications may include installation of photovoltaic solar panels, active solar water heating systems or integrated pool deck water heating systems, all of which serve to displace consumption of conventional energy sources (i.e., electricity and natural gas). Incentives, primarily in the form of state and federal tax credits, as well as reduced energy bills, provide a favorable basis for individual builders, property owners and occupants to install such alternative energy systems.

ELECTRICITY SUPPLY

Southern California Edison (SCE) provides electrical service to the City of Long Beach and the project area. SCE maintains and operates transmission and distribution infrastructure to provide purchased power to end users throughout its service area. A variety of power generation sources provide electricity to SCE, including, coal, nuclear and hydroelectric plants throughout the western states. High voltage electrical lines are typically utilized to transmit power from these plants. This power subsequently passes through a substation, from which it is distributed to individual consumers via lower voltage lines. SCE maintains a high voltage system (12,000 volts) and various low voltage systems within the project area.

According to the California Energy Commission (CEC), SCE is projected to deliver 100.8 million megawatt-hours (MWh) to its customers during 2004.[17] By 2010, SCE's demand is expected to increase to 113.1 million MWh.[18]

NATURAL GAS

CALIFORNIA NATURAL GAS REGULATION AND INFRASTRUCTURE

The California Public Utilities Commission (CPUC) regulates natural gas utility service for approximately 10.5 million customers that receive natural gas from Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SCGC), San Diego Gas & Electric Company (SDG&E), Southwest Gas and several smaller natural gas utilities. Most of California's natural gas customers are residential and small commercial customers (referred to as "core" customers) who accounted for approximately 40 percent of the natural gas delivered by California utilities in 2003. Large consumers, like electric generators and industrial customers (referred to as "non-core" customers) accounted for approximately 60 percent of the natural gas delivered by California utilities in 2003. The CPUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing.

Most of the natural gas used in California comes from out-of-state natural gas basins. In 2003, California customers received 42 percent of their natural gas supply from basins located in the Southwest, 26 percent from Canada, 14 percent from the Rocky Mountains and 18 percent from basins located within California.

Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The five major interstate pipelines that deliver out-of-state natural gas to California consumers are the Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline and Mojave Pipeline. Another pipeline, the North Baja Pipeline, takes gas off the El Paso Pipeline at the California/Arizona border and delivers that gas through California into Mexico. While the Federal Energy Regulatory Commission (FERC) regulates the

[17] California Energy Commission. California Energy Demand 2000-2010. Technical Report to California Energy Outlook 2000. Docket #99-CEO-1. June 2000.

[18] *Ibid.*

transportation of natural gas on the interstate pipelines, the CPUC often participates in FERC regulatory proceedings to represent the interests of California natural gas consumers.

2001 TITLE 24, PART 6 CALIFORNIA'S ENERGY EFFICIENCY STANDARDS FOR RESIDENTIAL AND NON-RESIDENTIAL BUILDINGS

The Energy Efficiency Standards for Residential and Nonresidential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. New standards were adopted by the Commission in 2001 as mandated by Assembly Bill 970 to reduce California's electricity demand. The new standards went into effect on June 1, 2001. The standards (along with standards for energy efficient appliances) have saved more than $20 billion in electricity and natural gas costs. It is estimated the standards will save $57 billion by 2011.

LONG BEACH ENERGY

Through the purchase of natural gas from Southern California Gas Company, Long Beach Energy provides natural gas to the City of Long Beach, including the project site. Long Beach Energy has the capacity to deliver over 155 million cubic feet (cf) of natural gas per day. Natural gas lines currently exist within the project area. However, due to lot consolidations and various development projects occurring within downtown Long Beach, Long Beach Energy is currently in the process of relocating gas lines from alleyways into roadways.[19]

According to Long Beach Energy, gas lines are planned to be relocated in three phases between 2006 and 2008. Phases one and two would occur within downtown and central Long Beach. The third phase is planned to occur in 2008 and would include relocating gas pipelines in the East Village.

SOLID WASTE

STATE PLANS AND POLICIES FOR SOLID WASTE DISPOSAL

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (AB 939) requires every city and county in the State to prepare a Source Reduction and Recycling Element (SRRE) to its Solid Waste Management Plan, that identifies how each jurisdiction will meet the mandatory State waste diversion goals of 25 percent by the year 1995 and 50 percent by the year 2000. The purpose of AB 939 is to "reduce, recycle, and re-use solid waste generated in the State to the maximum extent feasible." Noncompliance with the goals and timelines set forth within AB 939 can result in fines up to $10,000 per day on jurisdictions (cities and counties) not meeting the recycling and planning goals.

[19] Based on a telephone interview with Mike Zykuski of Long Beach Energy, January 6, 2006.

The term "integrated waste management" refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. AB 939 established a waste management hierarchy as follows:

- Source Reduction;
- Recycling;
- Composting;
- Transformation; and
- Disposal.

As of January 2003, neither the California Integrated Waste Management Board nor the State Legislature have introduced new legislation to set diversion requirements beyond 2000.

REGIONAL PLANS AND POLICIES FOR SOLID WASTE DISPOSAL

Los Angeles Countywide Siting Element

In 1997, the County of Los Angeles prepared a countywide siting element that estimates the amount of solid wastes generated in the County and proposes various diversion and alternate disposal options.

The Los Angeles Countywide Siting Element identifies the Los Angeles County Department of Public Works (LACDPW) as the responsible agency to develop plans and strategies to manage and coordinate the solid waste generated (including hazardous waste) in the County unincorporated areas and address the disposal needs of Los Angeles County as a whole. The Siting Element is based upon the traditional practice of simply collecting solid waste and disposal of at landfills in the local vicinity. Therefore, currently many jurisdictions (such as the County of Los Angeles) are stating that existing local landfill space may reach capacity in the very near future.

LOCAL PLANS AND POLICIES FOR SOLID WASTE DISPOSAL

Source Reduction and Recycling Element

To meet the requirements of the California Integrated Waste Management Act, the City of Long Beach adopted a SRRE. The SRRE describes policies and programs that will be implemented by the City to achieve waste disposal reductions. Specifically, the City has identified goals to reduce waste at the source, increase the use of recyclable materials, encourage the use or reusable products and reduce green waste through on-site composting.

According to the Integrated Waste Management Board, the City of Long Beach has an approved solid waste diversion rate of 54 percent for 2002.[20]

[20] 2002 is the most current approved waste diversion rate.

EXISTING SOLID WASTE COLLECTION AND DISPOSAL

The Long Beach Environmental Services Bureau as well as private permitted waste haulers provide solid waste service for the City. Waste generated from the project area is disposed at various facilities, however the Puente Hills Landfill #6 and the Southeast Resource Recovery Facility, typically receive the greatest proportions of solid waste.

In 2004, approximately 653,546 tons of solid waste was generated by uses in the City of Long Beach (refer to Table 5.8-6, *Landfills Summary*). Approximately 38.9 percent (254,675 tons) of Long Beach's solid waste is sent to the Southeast Resource Recovery Facility and approximately 31.1 percent (203,127) is sent to the Puente Hills Landfill. The 18 landfills serving Long Beach have a total permitted capacity of 929.7 million tons and a remaining capacity of approximately 569.7 million tons.

Table 5.8-6
Landfill Summary

Facility	Amount Disposed from Long Beach (tons/year)[1]	Permitted Daily Capacity (tons/day)[2]	Permitted Total Capacity (cubic yards)[2]	Remaining Capacity (cubic yards)[2]
Bakersfield S.L.F.	34	4,500	53,000,000	2,985,888
CWMI – B18 Nonhazardous Codisposal (Kings Waste and Recycling Authority)	2,040	8,000	10,700,000	6,000,000
Antelope Valley Public Landfill	1,635	1,400	6,480,000	2,978,143
Azusa Land Reclamation Co, Inc.	11,886	6,500	66,670,000	34,100,000
Waste Management of Lancaster	1,684	1,700	22,645,000	22,645,000
Chiquita Canyon Sanitary Landfill	13,997	6,000	45,889,550	26,024,360
Puente Hills Landfill #6	203,127	13,200	106,400,000	62,291,000
Commerce Refuse-to-Energy Facility	260	1,000	1,000 tons/day	N/A
Sunshine Canyon SLF County Extension	16,231	5,500	13,441,300	13,441,300
Southeast Resource Recovery Facility	254,675	2,240	2,240 tons/day	N/A
Bradley Landfill West and West Extension	18	10,000	38,000,000	4,725,968
Prima Deshecha Sanitary Landfill	45,195	4,000	172,900,000	87,384,799
Olinda Alpha Sanitary Landfill	47,941	8,000	74,900,000	38,578,383
Frank R. Bowerman Sanitary Landfill	10,845	8,500	N/A	63,019,060
El Sobrante Sanitary Landfill	43,258	10,000	184,930,000	172,531,000
Fontana Refuse Disposal Site	7	7,500	62,000,000	694,058
B-J Dropbox Sanitary Landfill	0	2,400	28,240,000	22,815,505
Simi Valley Landfill – Recycling Center	712	3,000	43,500,000	9,473,131
Total	**653,546**	**103,440**	**929,695,850**	**569,687,595**

[1] California Integrated Waste Management Board, Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility, www.ciwmb.ca.gov, 2004 data.
[2] California Integrated Waste Management Board, Solid Waste Information System (SWIS), www.ciwmb.ca.gov, Retrieved March 3, 2006.

Existing on-site uses include 63 multi-family residential units, 9,629 square feet of retail uses, 7,500 square feet of office uses and 3,852 square feet of restaurant uses. As indicated in Table 5.8-7, *Existing Solid Waste Generation*, existing uses on the project site generate approximately 759 pounds of solid waste per day or 139 tons per year. This represents approximately 0.02 percent of the City's solid waste disposed of per year.

Table 5.8-7
Existing Solid Waste Generation

Land Use	Building Area (s.f.)	Dwelling Units	Demand Factor[1]		Existing Generation (Pounds/day)
			Pounds/ du/ day	Pounds/ s.f./day	
Residential	-	63	4	-	252
Retail	9,629	-	-	0.046	443
Office	7,500	-	-	0.006	45
Restaurant	3,852	-	-	0.005	19
Totals	**20,981**	**63**	**-**	**-**	**759**

s.f. = square feet; du = dwelling units.

[1] Demand factors obtained from the California Integrated Waste Management Board, Estimated Solid Waste Generation Rates, (www.ciwmb.ca.gov) Retrieved March 3, 2006.

STORMWATER/WATER QUALITY

REGULATORY FRAMEWORK

Clean Water Act

In 1972, the Federal Water Pollution Control Act [later referred to as the Clean Water Act (CWA)] was amended to require National Pollutant Discharge Elimination System (NPDES) permits for the discharge of pollutants to waters of the United States from any point source. In 1987, the CWA was amended to require that the United States Environmental Protection Agency (EPA) establish regulations for permitting of municipal and industrial stormwater discharges under the NPDES permit program. The EPA published final regulations regarding stormwater discharges on November 16, 1990. The regulations require that municipal separate storm sewer system (MS4) discharges to surface waters be regulated by a NPDES permit.

In addition, the CWA requires the states to adopt water quality standards for receiving water bodies and to have those standards approved by the EPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing, etc.), along with water quality criteria necessary to support those uses. Water quality criteria are prescribed concentrations or levels of constituents – such as lead, suspended sediment and fecal coliform bacteria – or narrative statements which represent the quality of water

that support a particular use. Because California had not established a complete list of acceptable water quality criteria, EPA established numeric water quality criteria for certain toxic constituents in receiving waters with human health or aquatic life designated uses in the form of the California Toxics Rule ("CTR") (40 CFR 131.38).

California Porter-Cologne Act

The Federal CWA places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states, although it does establish certain guidelines for the states to follow in developing their programs and allows the EPA to withdraw control from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and each of the Regional Water Quality Control Boards (RWQCBs) power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal CWA. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its state water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas or types of waste.

Basin Plan

The Los Angeles RWQCB's Basin Plan provides quantitative and narrative criteria for a range of water quality constituents applicable to certain receiving water bodies and groundwater basins within the Los Angeles Region. Specific criteria are provided for the larger, designated water bodies within the region, as well as general criteria or guidelines for ocean waters, bays and estuaries, inland surface waters and groundwater basins. In general, the narrative criteria require that degradation of water quality does not occur due to increases in pollutant loads that would adversely impact the designated beneficial uses of a water body. For example, the Los Angeles Basin Plan (Basin Plan) requires that "Inland surface waters shall not contain suspended or settleable solids in amounts which cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors." Water quality criteria apply within receiving waters as opposed to applying directly to runoff; therefore, water quality criteria from the Basin Plan are utilized as benchmarks as one method to evaluate the potential ecological impacts of runoff on receiving waters.

The Basin Plan also contains water quality criteria for groundwater basins. For example, the Basin Plan requires that "Ground waters shall not contain taste or odor producing substances in concentrations that cause nuisance or adversely affect beneficial uses."

National Pollutant Discharge Elimination System (NPDES)

The Los Angeles RWQCB has jurisdiction over the NPDES permits and other regulatory programs. The General Permit for Discharges of Storm Water Associated with Construction Activity regulates discharges whose projects disturb one or more acres of soil or disturb less than one acre, but are part of a larger common development plan that disturbs one or more acres. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is required to list Best Management Practices (BMPs) to protect stormwater runoff quality.

NPDES permits are also required for stormwater discharges from municipal separate storm water systems. The MS4 permit requires the discharger to develop and implement a Storm Water Management Plan (SWMP) to reduce the discharge of pollutants to the maximum extent practicable (MEP). The SWMP identifies what BMPs will be used to address certain program areas.

The City of Long Beach has its own NPDES permit (NPDES Permit No. 99-060; CAS004003/CI 8052). To obtain its permit, the City of Long Beach submitted a Report of Waste Discharge (ROWD), which included a SWMP. The SWMP identifies practices and activities to reduce or eliminate pollutants to the MEP. Chapter 18.95, NPDES and SUSMP Regulations, of the City's *Municipal Code*, establishes regulations to "effectively prohibit non-storm water discharges into the storm drain systems or watercourses and controls to reduce the discharge of pollutants into the storm water to the maximum extent practicable." In accordance with the *Municipal Code*, a SWPPP is required to be prepared for construction projects of one or more acres.

EXISTING STORMWATER RUNOFF AND WATER QUALITY

The project site is currently developed and is almost completely impervious. Stormwater runoff from the site is conveyed in the City's local street system. The project site lacks any measured data on stormwater runoff quality. In the absence of site-specific data, expected storm water quality can be qualitatively discussed by relating typical pollutants to specific land uses.

Currently, the site contains residential dwellings, commercial/retail and office buildings. The expected existing pollutants in the existing condition stormwater runoff from the project site are oil and grease from automobile use. Other pollutants associated with residential, commercial and office development includes trash, nutrients, bacteria, oil and grease and household hazardous wastes.

RESIDENTIAL ACTIVITIES AND DEVELOPMENT

Residential and urban development is often a significant source of stormwater pollution. Development and redevelopment activities have two primary effects on

water quality; they are sources of erosion and sedimentation during the construction phase and they have long-term effects on runoff once the development is complete. Residential and urban development can affect water quality in three ways:

- Impervious surfaces associated with development increase the rate and volume of stormwater runoff, which increase downstream erosion potential;
- Urban activities generate dry-weather ("nuisance") flows, which may contain pollutants and/or may change the ephemeral nature of streams and the degradation of certain habitats; and
- Impervious surfaces increase the concentration of pollutants during wet weather flows.

The potential for negative water quality effects is generally correlated to the density of development and the amount of impervious area associated with development. Detached residential development has the potential to generate sediments such as nutrients and organic substances (including fertilizers), pesticides (from landscape application), trash and debris (including household hazardous waste), oxygen demand, oil and grease (from driveways and roads), and bacteria and viruses.

Municipal Activities and Development

Infrastructure and facilities (roads, streets, highways, parking facilities, storm drains and flood management facilities) present a threat to water quality. Other facilities such as parks, airfields, water treatment plants, wastewater reclamation plants, landfills and transfer centers and corporate yards also present water quality issues. Municipalities may also own and administer areas and activities tributary to impaired water bodies and/or water quality sensitive areas that might be harmful to water quality.

Commercial Activities and Development

Certain commercial activities have the potential to generate pollutants that can negatively affect stormwater quality. Restaurants have the potential to generate pollutants such as grease, trash and other oxygen-demanding substances.

5.8.2 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix 15.1 of this EIR. The Initial Study includes questions relating to public services and utilities. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

PUBLIC SERVICES

FIRE AND POLICE PROTECTION, SCHOOLS AND LIBRARIES

A significant impact would occur if the project would result in a:

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

RECREATION

A significant impact would occur if the project:

- Increases the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or

- Includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

UTILITIES AND SERVICE SYSTEMS

WATER, WASTEWATER/SEWERS, SOLID WASTE AND STORMWATER

A significant impact would occur if the project:

- Exceeds wastewater treatment requirements of the applicable Regional Water Quality Control Board;

- Requires or results in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

- Has insufficient water supplies available to serve the project from existing entitlement and resources, and new or expanded entitlement is needed;

- Results in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

- Is served by a landfill that does not have sufficient permitted capacity to accommodate the project's solid waste disposal needs; and/or

- Does not comply with Federal, State, and local statutes and regulations related to solid waste.

STORMWATER/WATER QUALITY

A significant impact would occur if the project would:

- Violate any water quality standards or waste discharge requirements.
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Based on these standards, the effects of the proposed project have been categorized as either a "less than significant impact" or a potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact.

5.8.3 IMPACTS AND MITIGATION MEASURES

FIRE PROTECTION

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD RESULT IN AN INCREASED DEMAND FOR FIRE SERVICES.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: The proposed project would involve the construction of 358 residential units and 13,561 square feet of retail/gallery space, resulting in an increased need for fire protection services to the project site. As stated, Fire Stations 1, 2 and 3 currently serve the project site and surrounding area. The stations are located approximately one to two miles from the project site and have a current response time of one to four minutes, depending upon the responding fire station. Implementation of the proposed project would not impact the response time to the project site.

The proposed project would be required to comply with all Fire Prevention Bureau codes and regulations, including access, sprinklers, placement of fire hydrants and fire flows, in accordance with the City's *Municipal Code*. The LBFD would review the project to ensure compliance with all requirements and may impose additional requirements based on the scale and nature of the proposed project. The LBFD has advised that they would assess their ability to handle the increased occupant load to the downtown area and at this time does not anticipate that the project would result in the need for any new fire stations.[21] Therefore, no significant impacts would occur in this regard.

The proposed project would be required to provide emergency access to the site. Consistent with applicable building and fire codes, the proposed structures would be required to design adequate access by fire and emergency service vehicles and

[21] Steve Lewis (Deputy Chief of Operations), Long Beach Fire Department, December 20, 2005.

equipment. The project proposes relocating the exiting Bronce Way alley northward to the edge of the project site, which would serve as a one-way street. Additionally, Lime Avenue between Medio Street and Ocean Boulevard would be vacated. The project applicant would be required to obtain approval of the vacation from the City Council. Additionally, the City of Long Beach and LBFD would review any plans for the relocation, vacation and improvements of streets to ensure adequate emergency access or emergency response to the project site. LBFD's standard plan check review procedures and requirements would assure that potential impacts would be below thresholds for significance.

Construction activities could potentially affect emergency access to various locations within the project site on a short-term basis. However, the incorporation of temporary traffic controls in accordance with the City's requirements would reduce the potential short-term impacts to emergency access within the project area to a less than significant level. Additionally, prior to off-site construction activities, the project would be required to submit a construction plan for pedestrian protection, street lane closers, construction staging, shoring excavations and the routing of construction vehicles. Plans would require approval from the City Engineer, City Traffic Engineer, LBFD, LBPD, public utility agencies and Long Beach Transit, further reducing impacts to a less than significant level. To review project plans, the LBFD Fire Prevention Bureau would require a one-half full time equivalent (essentially a part-time position) Fire Inspector for a 24 month time frame, or until completion of the proposed project, commencing at the beginning of construction.

Following compliance with the City's standards/codes and/or conditions of approval set forth by the LBFD, payment of applicable development fees and taxes and implementation of recommended mitigation measures, impacts to fire protection services would be reduced to less than significant levels.

Mitigation Measures:

PSU-1 Prior to the issuance of building permits, the developer shall provide verification that the project complies with all Fire Prevention Bureau provisions required by the LBFD.

PSU-2 Prior to the commencement of construction activities, the applicant shall make a fair share contribution to the cost of obtaining a one-half full time equivalent (FTE) Fire Inspector for a 24-month time frame, or until completion of the proposed project.

PSU-3 Prior to the issuance of building permits, the developer shall provide verification that the proposed project would meet all fire flow requirements determined by the LBFD.

Level of Significance After Mitigation: Less Than Significant Impact.

POLICE PROTECTION

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD RESULT IN AN INCREASED DEMAND FOR POLICE SERVICES.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: The proposed project would involve the construction of 358 residential units and 13,561 square feet of retail/gallery space, resulting in an increased need for police protection services to the project site. As stated, the South Division serves the project site and surrounding area. The LBPD currently maintains a response time of 4.2 minutes for priority one calls (immediate and/or life threatening) within the South Division, which complies with the LBPD goal of under five minutes for responding to priority one calls.

According to the LBPD, implementation of the proposed project would not result in significant impacts to police protection services and would not require additional staffing or facilities.[22] The LBPD would have adequate resources to serve the proposed project.

As previously stated, construction activities could potentially affect emergency access to various locations within the project site on a short-term basis. Incorporation of temporary traffic controls, in accordance with the City's requirements, would reduce the potential short-term impacts to emergency access within the project area to a less than significant level. As stated, the City of Long Beach, LBFD and LBPD would review plans for the relocation, vacation and improvements of streets within the area to ensure the proposed project would not interfere with emergency access or emergency response to the project site, resulting in a less than significant impact.

The LBPD would review site-specific development plans and provide recommendations for public safety and crime prevention. Recommendations may include, providing appropriate security lighting for proposed uses, including garages, clearly marked addresses and units, security systems and clear views of delivery areas, mailboxes and landscaped areas. Mitigation requiring compliance with recommended public safety and crime prevention measures would assist in reducing project-related calls for service.

Mitigation Measures:

PSU-4 Prior to issuance of building permits, the project developer shall incorporate the LBPD's required public safety and crime prevention measures, subject to the approval and verification of the Planning and Building Department.

Level of Significance After Mitigation: Less Than Significant Impact**.**

SCHOOLS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD INCREASE STUDENT ENROLLMENT WITHIN THE LONG BEACH UNIFIED SCHOOL DISTRICT.**

[22] Steven L. Ditmars (Lieutenant), Long Beach Police Department, Information Technology Division, March 3, 2006.

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: The proposed project would result in a net increase of residents to the project area. Although, the population growth would be consistent with SCAG's 2010 population projections for the City, the additional residents could place increased demands on local school facilities.

As stated, students within the project area would be within the service area of Chavez Elementary School, Franklin Middle School and Polytechnic High School. Based upon the generation rates provided by the LBUSD, Table 5.8-8, *Estimated Student Generation*, provides the number of students that could potentially be generated as a result of the proposed project. As indicated in Table 5.8-8, new residential development resulting from the proposed project would add a total of four elementary school students, two middle school students and two high school students to the LBUSD.

Table 5.8-8
Estimated Student Generation

School	Student Generation Factor Multi-Family[1]	Number of Multi-Family Units	Number of Students Generated From Project
K-6	0.013	295	4
7-8	0.005	295	2
9-12	0.005	295	2

Source: Carri M. Matsumoto (Executive Director), Long Beach Unified School District, October 18, 2005.

[1] Student generation numbers are from the Long Beach Unified School District Development Impact Fee Nexus Study, May 10, 2004, as provided by Carri M. Matsumoto (Executive Director), Long Beach Unified School District, October 18, 2005.

As shown in Table 5.8-9, *Estimated Increase in School Enrollment*, this would result in a less than one percent increase in the number of students at Chavez Elementary School, Franklin Middle School and Polytechnic High School.

Table 5.8-9
Estimated Increase in School Enrollment

School	Capacity[1]	Enrollment[2]	Number of Students Generated From Project	Percent Increase in Enrollment
Chavez Elementary School	775	519	4	0.77
Franklin Middle School	1,704	1,270	2	0.16
Polytechnic High School	3,562	4,399	2	0.05

[1] Capacity information provided by Cliff Bagget, Long Beach Unified School District, June 19, 2006.

[2] Enrollment numbers as of September 23, 2005 provided by Carri M. Matsumoto (Executive Director), Long Beach Unified School District, October 18, 2005.

The proposed project would be required to pay fees to the LBUSD to compensate for the impacts of the residential and commercial development on local school capacities, in order to maintain adequate classroom seating and facilities standards. As stated, development of the proposed project is currently subject to developer fees of $2.24 per square foot for residential and $0.36 per square foot for commercial/ industrial uses.

Pursuant to SB 50, payment of fees to the LBUSD is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives for schools. Therefore, the project applicant would be required to pay the statutory fees, so that space can be constructed, if necessary, at the nearest sites to accommodate the impact of project-generated students, reducing impacts to a less than significant level.

Mitigation Measures:

PSU-5 Prior to certificates of occupancy, the project applicant shall pay the required mitigation fees in place at time of payment to the LBUSD. Proof of payment shall be provided to the City of Long Beach.

Level of Significance After Mitigation: Less Than Significant Impact.

LIBRARIES

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD RESULT IN AN INCREASED DEMAND FOR LIBRARY SERVICES.**

Level of Significance Prior to Mitigation: Less Than Significant Impact.

Impact Analysis: Development of the proposed project would result in a net increase of residents to the project area. The increase in residents may result in increased demand for library services. Although increased demand on library facilities may occur, the City of Long Beach Public Library and Information Center does not anticipate a significant impact to library operations as a result of the proposed project. It is expected that the library's current resources would be able to serve the proposed project. Additionally, the Long Beach Public Library has advised that it is currently addressing an increased demand for computer resources that currently exists within the City. Therefore, a less than significant impact is anticipated in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: Not applicable.

PARKS AND RECREATION

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD RESULT IN AN INCREASED DEMAND FOR PARK AND RECREATION FACILITIES.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: Bixby Park and Cesar E. Chavez Park are the nearest neighborhood/community parks serving the project site. At this time, no future park sites have been identified within the neighborhood park service radius of the proposed project. Therefore, an existing impacted park would most conveniently serve many of the recreational needs of the proposed project residents.

The proposed project would result in a net increase of 295 residential units to the project site. Based upon typical City standards, there would be a need for 256,133 square feet (5.88 acres) of additional recreational open space for the project residents.[23] Further, based upon City standards, the increase in residents would result in the need for 0.15 acres of additional playground, 0.015 acres of additional swimming pool, 0.37 acres of additional basketball court, 0.10 acres of additional tennis court, 0.15 acres of additional football/soccer field, 0.15 acres of additional baseball/softball field and an additional 735 square feet of community recreation center building.[24] According to the Department of Parks, Recreation and Marine, the project would not be required to dedicate parkland as part of the proposed project to mitigate potential impacts.[25]

The project proposes recreational and leisure amenities for potential residents including a podium garden with a swimming pool, lawn, garden alcove and clubhouse. Additionally, the townhouse units fronting the terrace garden would have private yards. A workout room and gym would be situated on the first and second floors of the Gateway Tower and a lap pool and sun deck would be provided on the roof. Additionally, the project would incorporate passive open space areas, including an elliptical paseo and forecourt area. Provision of recreational amenities would reduce the demand on park and recreational facilities in the area.

Due to the scope and nature of the proposed project (i.e., high-rise residential within downtown Long Beach with on-site recreational amenities) and potential project residents, it is likely that demand for park and recreational facilities would be less than demand typically associated with single family and lower density multiple-family residential uses. The project site is located within proximity to several regional recreational facilities including beaches and marinas.

The Parks, Recreation and Marine Department acknowledges that the project is located within the Central Redevelopment Project Area and the Redevelopment

[23] Based upon a population increase of 735 additional residents as provided by Dennis Eschen (Manager of Planning and Development), City of Long Beach Department of Parks, Recreation and Marine, December 28, 2005.

[24] Dennis Eschen (Manager of Planning and Development), City of Long Beach Department of Parks, Recreation and Marine, December 28, 2005.

[25] *Ibid.*

Agency has funded the acquisition and development of parklands. Because the proposed project is within a redevelopment project area and contributes to the tax increment for the project area, future Redevelopment Agency contributions to parks and park facilities should be considered indirect mitigation.[26] While no future park sites have been identified within the one-mile neighborhood park service radius of the project site, the Redevelopment Agency has included in the Central Long Beach Redevelopment Project Area's budget more than $10.25 million for parks through Fiscal Year 2007; additional funding for parks is expected to be budgeted in future years. This funding is targeted at five recreational facilities within a three-mile radius of the project site: Drake Park expansion (1.7 miles), a future park at Alamitos and 15th Street (1.85 miles), Officer Daryle Black Memorial Park expansion (2 miles), Orizaba park expansion (3 miles) and California Recreation Senior Center (1.55 miles)

The proposed project would be required to pay park impact fees, as established by the City, to compensate for the impacts of the proposed project on park and recreational facilities, in order to maintain adequate recreation standards. According to the Parks, Recreation and Marine Department, payment of the fees would not fully mitigate the impact of the proposed project on park and recreational facilities.[27] However, the inclusion of on-site recreational amenities and payment of the park impact fees would reduce project impacts to below the significance threshold established for recreation and therefore project impacts would be less than significant.

Mitigation Measures:

PSU-6 Prior to certificates of occupancy, the project applicant shall pay the required park impact fees in place at time of payment to the City of Long Beach.

Level of Significance After Mitigation: Less Than Significant Impact.

WATER

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD CREATE DEMAND FOR WATER THAT EXCEEDS AVAILABLE SUPPLIES.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: Implementation of the proposed project would create additional demand for water. The project proposes 358 residential units and 13,561 square feet of retail/gallery space. As indicated in Table 5.8-10, *Proposed Project Water Demand*, the proposed project would create a demand of 92.18 AF/year, compared to an existing water demand of 20.38 AF/year.

The proposed water system would be required to support the fire flow as well as the Maximum Day Demand. Adverse pressures would need to be corrected by the

[26] *Ibid.*

[27] *Ibid.*

applicant's engineer under any flow condition. At the time of design, the applicant would be required to prove, to the satisfaction of the LBWD, that the additional flow would not impact the City water system.

Table 5.8-10
Proposed Project Water Demand

Land Use	Building Area (s.f.)	Dwelling Units (du)	Demand Factor[1]		Proposed Project Demand (AF/year)
			AF/year /du	AF/year/ 1 million s.f.	
Residential	--	358	0.249	--	89.14
Retail	13,561	--	--	224	3.04
Totals	**13,561**	**358**			**92.18**

s.f. = square feet; du = dwelling unit(s); AF = acre feet.

1 Demand factors based on Water Availability Assessment for the PacifiCenter @ Long Beach, Prepared by LBWD, December 2002.

The demand for potable water within the City of Long Beach is not expected to increase significantly over the next 15 years; however, the demand for less-expensive reclaimed water is expected to increase significantly as the distribution system is expanded. With the expansion of the reclaimed system, increase in conservation and acquisition of additional supply sources, it is anticipated that the LBWD will be able to successfully fulfill the future water demands of the City, including the proposed project.

The project proposes relocating the existing Bronce Way alley northward to the edge of the project site. Additionally, development of the project, as proposed, would require the vacation of a portion of Broadway Court located within the project site. According to the LBWD, the project would be required to pay the cost to relocate the existing water line in Bronce Way north of its present location and to relocate the existing water line in Broadway Court (between Bronce Way and Ocean Boulevard) to allow development of the project and maintain the hydraulic grid system.[28]

The project's water improvement plans would be submitted to and approved by the LBWD and LBFD. The project would be subject to all applicable LBFD requirements regarding fire flows to the project site. All on-site water facilities would be constructed in accordance with the Uniform Plumbing Code and City design standards. Additionally, prior to issuance of a connection permit, the project would be required to pay water connection fees according to the fee schedule in place at the time of permitting.

Compliance with all applicable State and City development requirements and construction of water-related facilities in accordance with the Uniform Plumbing Code and City design standards would ensure that impacts to water service and facilities are less than significant.

[28] Robert Villanueva, P.E., (Division Engineer), Long Beach Water Department, November 28, 2005.

Mitigation Measures:

PSU-7 Prior to the issuance of building permits, the applicant shall pay the fees required to relocate the existing water line in Broadway Court between Bronce Way and Ocean Boulevard and to relocate the existing water line in Bronce Way north of its present location.

PSU-8 Prior to the issuance of building permits, the applicant shall submit engineering studies to the LBWD verifying that adequate capacity exists to convey additional flow to the proposed project. If additional improvements are required, the applicant shall pay the necessary fees required for the water system improvements.

Level of Significance After Mitigation: Less Than Significant Impact.

WASTEWATER (SEWER)

- **DEVELOPMENT OF THE PROPOSED PROJECT WOULD GENERATE WASTEWATER THAT COULD EXCEED THE CAPACITY OF CONVEYANCE AND TREATMENT FACILITIES THAT SERVE THE PROJECT AREA.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: Project implementation would result in increased wastewater generated from the project site. The project proposes 358 residential units and 13,561 square feet of retail/gallery space. As indicated in Table 5.8-11, *Proposed Project Wastewater Generation*, the proposed project would generate approximately 78,966 gallons per day of wastewater, compared to existing wastewater generation of 19,795 gallons per day for a net increase of 59,171 gallons per day.

Table 5.8-11
Proposed Project Wastewater Generation

Land Use	Building Area (s.f.)	Dwelling Units (du)	Demand Factor[1]		Existing Generation gpd
			Gallons/day[2]	Gallons/tsf/day	
Residential	--	358	213	--	76,254
Retail/restaurant/office	13,561	--	--	200	2,712
Totals	**13,561**	**358**			**78,966**

s.f. = square feet; du= dwelling unit(s); tsf = thousand square feet; gpd = gallons per day.

1 Demand factors based on the Comprehensive Sewer System Master Plan and Management Program provided by the LBWD.

2 Demand factor for high-rise residential units.

At the time of design, the applicant would be required to prove, to the satisfaction of the LBWD, that the existing sewer mains would support the project. Wastewater generated by the proposed project would be treated at the JWPCP. The project

would be required to pay a connection fee to mitigate impacts of the project on the sewerage system, reducing impacts to a less than significant level.

The legally permitted levels of sewer service are contingent upon the available capacity of the Districts' treatment facilities, which is in turn limited to levels associated with approved growth identified by SCAG. The wastewater flow associated with the proposed project is not anticipated to exceed levels associated with approved growth, as identified by SCAG's regional growth forecasts; refer to Section 6.0.

Development of the project, as proposed, would encroach into the existing sewer line located within Broadway Court (between Bronce Way and Ocean Boulevard). According to the LBWD, this sewer line would be abandoned and the project would be required to pay the fees necessary to construct a new sewer manhole on a portion of the remaining existing sewer line.[29] The applicant's engineer would be required to prove that the City's sewer system has adequate capacity to accept the additional sewage flow.

Compliance with existing State and City development requirements would ensure that adequate and sufficient wastewater service is provided to the proposed project. The project's sewer improvement plans would be reviewed by the City's Water Department. All on-site sewer facilities would be constructed in accordance with the Uniform Plumbing Code and City design standards. Additionally, prior to issuance of a connection permit, the project Applicant would be required to pay sewer connection fees according to the fee schedule in place at the time of permitting.

Compliance with all applicable State and City development requirements and construction of wastewater-related facilities in accordance with the Uniform Plumbing Code and City design standards would ensure that impacts regarding wastewater service and facilities are less than significant.

Mitigation Measures:

PSU-9 Prior to the issuance of building permits, the developer shall pay the fees required to construct a new sewer manhole on a portion of the remaining Broadway Court sewer line.

PSU-10 Prior to issuance of building permits, the project applicant shall provide evidence that the County Sanitation Districts of Los Angeles County has sufficient wastewater transmission and treatment plant capacity to accept sewage flows from the buildings for which building permits are being requested.

PSU-11 Prior to the issuance of building permits, the project applicant shall provide engineering studies to the LBWD verifying that the sewer system has adequate capacity to serve the project. If additional improvements are required, the applicant shall pay the necessary fees required for the sewer system improvements.

[29] *Ibid.*

Level of Significance After Mitigation: Less Than Significant Impact.

ELECTRICITY

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD RESULT IN AN INCREASED DEMAND FOR ELECTRIC SERVICES.**

Level of Significance Prior to Mitigation: Less Than Significant Impact.

Impact Analysis: Implementation of the proposed project would result in an increased demand for electricity service to the project site. As indicated in Table 5.8-12, *Proposed Project Electricity Consumption*, the proposed project would consume approximately 2,198 megawatt-hours per year of electricity. This represents 0.002 percent of SCE's annual power deliveries in 2010, which is not considered a significant impact.

Table 5.8-12
Proposed Project Electricity Consumption

Land Use	Building Area (s.f.)	Dwelling Units (du)	Usage Factor[1]	Electricity Consumption (MWh/year)
Residential	--	358	5,626.5 kWh/du/year	2,014.3
Retail/Gallery	13,561	--	13.55 kWh/s.f./year	183.7
Total	**13,561**	**358**		**2,198**

s.f. = square feet; du = dwelling unit(s); MWh = megawatt-hour; KWh = kilowatt-hour.

1 Usage factors are from South Coast Air Quality Management District *CEQA Air Quality Handbook*, April 1993.

Although the total system demand is expected to increase annually, SCE has indicated that their plans for new distribution resources would be adequate to serve all customer loads in accordance with SCE rules and tariffs.[30] Additionally SCE has advised that the electrical loads associated with the proposed project are within the parameters of projected load growth, which SCE is planning to meet in the project area.[31] The project applicant would be responsible for the costs associated with any new facilities and/or relocation of existing SCE facilities to accommodate the proposed project. The project's electrical distribution plans would be submitted to and approved by SCE and all electrical facilities would be constructed in accordance with SCE and City design standards. Thus, impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: Not applicable.

[30] Jim Matthei (Service Planner), Southern California Edison, January 5, 2006.

[31] *Ibid.*

NATURAL GAS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD INCREMENTALLY INCREASE DEMANDS ON NATURAL SUPPLIES AND DISTRIBUTION INFRASTRUCTURE.**

Level of Significance Prior to Mitigation: Less Than Significant Impact.

Impact Analysis: Implementation of the proposed project would result in an increased demand for natural gas service to the project site. As indicated in Table 5.8-13, *Proposed Project Natural Gas Consumption*, the proposed project would consume approximately 1,475,443.9 cubic feet of natural gas per month. This represents 0.0032 percent of Long Beach Energy's daily capacity, which is not considered a significant impact.

Table 5.8-13
Proposed Project Natural Gas Consumption

Land Use	Building Area (s.f.)	Dwelling Units (du)	Usage Factor[1]	Natural Gas Consumption (cf/month)
Residential	--	358	4,011.5 cf/du/month	1,436,117
Retail/Gallery	13,561	--	2.9 cf/s.f./month	39,326.9
Total	**13,561**	**358**		**1,475,443.9**

s.f. = square feet; du = dwelling unit(s); cf = cubic feet.

[1] Usage factors are from South Coast Air Quality Management District *CEQA Air Quality Handbook*, April 1993.

Although demand for natural gas would increase as a result of the proposed project, Long Beach Energy would have sufficient supplies to support the increased demand, resulting in a less than significant impact. Additionally, gas service, including any new facilities, would require coordination with Long Beach Energy. The project applicant would be responsible for the costs associated with any new facilities and/or relocation of existing facilities to accommodate the proposed project. The project's natural gas distribution plans would be submitted to and approved by the City and all facilities would be constructed in accordance with the City's design standards. Thus, impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: Not applicable.

SOLID WASTE

- **DEVELOPMENT ASSOCIATED WITH BUILDOUT OF THE PROPOSED PROJECT WOULD GENERATE SOLID WASTE THAT WOULD INCREMENTALLY DECREASE THE CAPACITY AND LIFESPAN OF LANDFILLS.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: The proposed project would require demolition of approximately 49,270 square feet of existing facilities during construction. Site preparation (vegetation removal and grading activities) and construction activities would generate typical construction debris, including wood, paper, glass, plastic, metals, cardboard, and green wastes. Construction activities could also generate hazardous waste products. The wastes generated would result in an incremental and intermittent increase in solid waste disposal at landfills and other waste disposal facilities within Los Angeles County, resulting in a potentially significant impact.

As shown in Table 5.8-14, *Proposed Project Solid Waste Generation (No Recycling)*, implementation of the proposed project would generate a total of 2,056 lbs/day of solid waste, or 375 tons/year before recycling and other waste diversion activities.

The project currently generates approximately 759 pounds of solid waste per day. Therefore, the proposed project would result in a net increase in solid waste generation of 1,297 pounds per day or 236.7 tons per year. This represents approximately 0.04 percent of the City's solid waste disposed of per year. The proposed project would be required to comply with applicable State and local regulations, thus reducing the amount of landfill waste by at least 50 percent.

Table 5.8-14
Proposed Project Solid Waste Generation (No Recycling)

Land Use	Building Area (s.f.)	Dwelling Units	Demand Factor[1]		Proposed Generation (Pounds/day)
			Pounds/ du/ day	Pounds/ s.f./ day	
Residential	-	358	4	-	1,432
Retail/Gallery	13,561	-	-	0.046	624
Totals	**13,561**	**358**			**2,056**

s.f. = square feet; du = dwelling unit(s).

[1] Demand factor obtained from the California Integrated Waste Management Board, Estimated Solid Waste Generation Rates (www.ciwmb.ca.gov), Retrieved March 3, 2006.

The landfills serving the project area have available permitted capacity, and therefore would accommodate the proposed project's solid waste disposal needs. Specifically, as depicted in Table 5.8-6, the landfills serving the City have a daily permitted tonnage of 103,440 tons per day. The proposed project would represent 0.00099 percent of the total daily permitted tonnage. With implementation of recommended mitigation measures as well as compliance with Federal, State and local statutes or regulations, a less than significant impact would occur.

Mitigation Measures:

PSU-12 The project applicant shall adhere to all source reduction programs for the disposal of construction materials and solid waste, as required by the City

of Long Beach. Prior to issuance of building permits, a source reduction program shall be prepared and submitted to the Environmental Services Bureau for each structure constructed on the subject property to achieve a minimum 50 percent reduction in waste disposal rates.

PSU-13 The applicant shall comply with all applicable City, County and State regulations and procedures for the use, collection and disposal of solid and hazardous wastes.

Level of Significance After Mitigation: Less Than Significant Impact.

STORMWATER/WATER QUALITY

- **DEVELOPMENT OF THE PROPOSED PROJECT MAY INCREASE RUNOFF FROM THE PROJECT SITE, RESULTING IN IMPACTS TO WATER QUALITY.**

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: Impacts related to water quality would range over three different periods: 1) during the earthwork and construction phase, when the potential for erosion, siltation and sedimentation would be the greatest; 2) following construction, prior to the establishment of ground cover, when the erosion potential may remain relatively high; and 3) following completion of the project, when impacts related to sedimentation would decrease markedly, but those associated with urban runoff would increase.

Construction of the proposed project has the potential to produce typical pollutants such as nutrients, suspended solids, heavy metals, pesticides and herbicides, toxic chemicals related to construction and cleaning, waste materials (including wash water), paints, wood, paper, concrete, food containers, sanitary wastes, fuel and lubricants. The project would be required to comply with the City's *Municipal Code* which requires construction plans for the project to include features that would meet the applicable construction BMPs and erosion and sediment control BMPs.

Additionally, the project would be required to comply with Chapter 18.95, NPDES and SUSMP Regulations, of the City's *Municipal Code*, which establishes regulations to "effectively prohibit non-storm water discharges into the storm drain systems or watercourses and controls to reduce the discharge of pollutants into the storm water to the maximum extent practicable." In accordance with the *Municipal Code*, a SWPPP is required to be prepared for construction projects of one or more acres. The SWPPP would include appropriate construction site BMPs. Water quality impacts would be less than significant in this regard.

A reduction in permeable surfaces would be considered to be a water quality impact because permeable surfaces allow for rain and runoff to infiltrate into the ground. The project proposes development of residential and ground floor retail/gallery and civic space uses. As the site is currently developed with residential, retail, restaurant, office and parking uses, the amount of impervious surfaces would not be significantly altered as a result of project implementation. It is expected that the net change in impervious area and associated runoff flow volumes resulting from project

implementation would not result in significant surface drainage impacts on- or off-site. Additionally, the project would be required to submit hydrology and hydraulic calculations for approval by the City, further reducing impacts to a less than significant level.

Mitigation Measures:

PSU-14 A Storm Water Pollution Prevention Plan (SWPPP) shall be completed for the construction activities on-site and submitted to the Department of Public Works, Engineering Bureau for review and approval. A copy of the SWPPP shall be available and implemented at the construction site at all times. The SWPPP shall outline the source control and/or treatment control BMPs to avoid or mitigate runoff pollutants at the construction site to the maximum extent practicable.

Level of Significance After Mitigation: Less Than Significant Impact.

5.8.4 CUMULATIVE IMPACTS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE PUBLIC SERVICES AND UTILITIES IMPACTS.**

Level of Significance Prior to Mitigation: Less Than Significant Impact.

Impact Analysis: Development within the City associated with the proposed project and related cumulative projects identified in Section 4.0, *Cumulative Projects*, would not result in significant cumulative impacts to public services and utilities.

FIRE PROTECTION

Development of the project and related cumulative projects would result in new residential, retail, hotel, restaurant, institutional and parking uses to the area. Additionally, several of the related cumulative projects include high-rise structures within the downtown. The increase in population and density would significantly increase the demand on fire protection services to the area. The LBFD would assess their ability to serve development projects within the City on a project-by-project basis. Individual projects would be required to comply with the City's standards/codes and/or conditions of approval set forth by the LBFD and any recommended mitigation measures applicable to the project. The LBFD has advised that the proposed project would not result in significant impacts to fire protection services. Therefore, development of the proposed project would not result in significant cumulative impacts in regards to fire protection services.

POLICE PROTECTION

As stated, development of the project and related cumulative projects would result in new residential, retail, hotel, restaurant, institutional and parking uses to the area. The increase in population and density would significantly increase the demand on

police protection services to the area. The LBPD would assess their ability to serve development projects within the City on a project-by-project basis. Individual projects would be required to comply with the City's standards/codes and/or conditions of approval set forth by the LBPD and any recommended mitigation measures applicable to the project. The LBPD has advised that the proposed project would not result in significant impacts to police protection services. Therefore, development of the proposed project would not result in significant cumulative impacts in regards to police protection services.

SCHOOLS

Development of the proposed project and related cumulative projects would potentially generate new students to the City. Individual development projects would be required to pay school impact fees based on the type and size of development proposed. Pursuant to SB 50, payment of fees to the LBUSD is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives for schools. Therefore, individual project applicants would be required to pay the statutory fees, so that space can be constructed, if necessary, at the nearest sites to accommodate the impact of project-generated students. Therefore, development of the proposed project would not result in significant cumulative impacts in regards to school services and facilities.

LIBRARIES

Development of the proposed project and related cumulative projects would result in increased demand to library facilities within the City. The Long Beach Public Library has advised that the proposed project would not result in significant impacts to library services and facilities. Therefore, the proposed project would not contribute to cumulative impacts in regards to library services and facilities.

PARKS AND RECREATION

Park and recreation facilities within the project area are currently deficient. Development of the proposed project and related cumulative projects would further contribute to the existing parkland deficiency. Although individual projects would be required to pay park impact fees, the City has advised that payment of these fees would not fully mitigate impacts on existing facilities. However, the inclusion of on-site recreational amenities and payment of park impact fees would reduce project impacts to a less than significant level. Residential developments within the downtown are anticipated to include recreational amenities and would be required to pay park impact fees. The inclusion of recreational amenities into the development of related cumulative projects would be assessed on a project-by-project basis. Therefore, the proposed project would not contribute to cumulative impacts in regards to park and recreation facilities.

WATER

At the time of project design, the applicant would be required to prove to the LBWD that the additional flow would not impact the water system or provide adequate funds for necessary improvements to the water system. The City's UWMP takes into account the future water demands of proposed development projects based on housing, population and employment growth forecasts for the City. Adequate water supply would be available in normal and dry years to serve the proposed project. Water availability for individual development projects would be determined on a case-by-case basis. In accordance with SB 610, a water supply assessment would be required for projects exceeding established development thresholds. The LBWD would review site-specific development plans to determine the impact on existing water mains. Individual projects would be required to pay the cost to relocate existing water mains impacted by new development. Development of the proposed project would not result in significant cumulative impacts in regards to water services.

WASTEWATER (SEWERS)

At the time of project design, the applicant would be required to prove to the LBWD that the additional flow would not impact the sewer system or provide adequate funds for necessary improvements to the sewer system. Due to this requirement, the proposed project would not result in significant impacts to wastewater service and facilities. It is anticipated that the existing network of sewer mains would be able to support the proposed project and related cumulative projects. The legally permitted levels of sewer service are contingent upon the available capacity of the Districts' treatment facilities, which is in turn limited to levels associated with approved growth identified by SCAG. The wastewater flow associated with the proposed project and related cumulative projects are not anticipated to exceed levels associated with approved growth, as identified by SCAG's regional growth forecasts. The proposed project and related cumulative projects would be required to pay a connection fee to mitigate impacts of the development on the sewerage system.

The LBWD would review site-specific development plans to determine the impact on existing sewer mains. Individual projects would be required to pay the cost to relocate existing sewer mains impacted by new development. Development of the proposed project would not result in significant cumulative impacts in regards to wastewater services.

ELECTRICITY

Electrical loads of the proposed project and related cumulative projects are within the parameters of projected load growth, which SCE is planning to meet in the area. All electrical lines and other system improvements would be installed, in whole or in part, at the expense of development project applicants, and would serve to avoid adverse impacts to the electricity distribution system.

Although the proposed project and related cumulative projects would create additional demands on electricity supplies and distribution infrastructure, these demands are within the service capabilities of SCE. Thus, cumulative impacts would be less than significant.

NATURAL GAS

Implementation of the proposed project would not result in significant impacts as a result of increased demand for natural gas. Long Beach Energy has the capacity to deliver over 155 million cubic feet (cf) of natural gas per day and existing gas lines are located within the area. Although development of the proposed project and related cumulative projects would result in increased demand for natural gas, the demand would be within existing capacity. Due to lot consolidations and various development projects occurring within the area, Long Beach Energy is currently in the process of relocating gas lines from alleyways into roadways. Where necessary, natural gas distribution pipelines would be installed or upsized to serve development associated with the proposed project and related cumulative projects at the expense of the project applicants. The proposed project would not result in significant cumulative impacts in this regard.

SOLID WASTE

Development associated with the proposed project and related cumulative projects would contribute to the reduction of landfill capacity within the County. Although the proposed project would not significantly impact existing landfill capacity, the increase in solid waste generation from the project and related cumulative projects together, could significantly impact the finite resources associated with solid waste disposal. The proposed project and related cumulative projects would be required to meet current recycling goals, reducing the amount of solid waste requiring disposal at landfills. The proposed project would not result in significant cumulative impacts in this regard.

STORMWATER/WATER QUALITY

Development associated with the proposed project and related cumulative projects could result in significant stormwater runoff and water quality impacts. The proposed project and related cumulative projects would be required to comply with the City's *Municipal Code*, which establishes regulations to "effectively prohibit non-storm water discharges into the storm drain systems or watercourses and controls to reduce the discharge of pollutants into the storm water to the maximum extent practicable." In accordance with the *Municipal Code*, a SWPPP is required to be prepared for construction projects of one or more acres. The SWPPP would include appropriate construction site BMPs. The proposed project and related cumulative projects would be required to submit hydrology and hydraulic calculations to the City for review and approval. Projects would be evaluated on a case-by-case basis and mitigation would be developed as appropriate. The proposed project would not result in significant cumulative impacts in this regard.

Mitigation Measures: No mitigation measures are recommended.

Level of Significance After Mitigation: Not applicable.

5.8.5 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed Shoreline Gateway Project would not result in significant unavoidable impacts to public services and utilities for project buildout and cumulative conditions.